UNIVERSITY OF ILLINOIS
LIBRARY

Class 630.5 Book CA Volume 2.5

Je 05-10M

Digitized by the Internet Archive
in 2015

https://archive.org/details/californiacultiv25unse

30.5

California Cultivator

LOS ANGELES SAN FRANCISCO

JULY 7, 1905

These are busy days in the deciduous orchards of San Joaquin Valley. Hundreds of tons of green deciduous fruits is the daily output.

CIRCULATION EXCEEDING 10,400

... COULSON'S SPECIAL MOULTING FEED ...

A FEATHER GROWING FEED

A specially prepared or properly balanced mixed feed containing the right component parts of materials for producing the rapid growth of feathers.

The term "molting" denotes the process of the birds shedding their old feathers ,and growing new plumage.

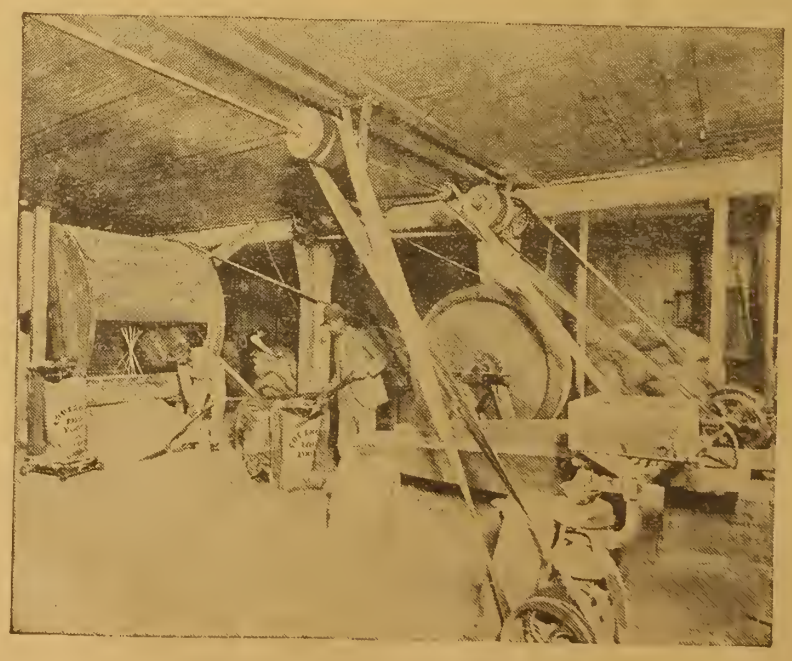
It is not necessary to starve the hens to make them molt, neither is it necessary to stop egg production. Hens fed with good feed and with good digestive capacity, can lay eggs and make feathers at the same time.

Keep hens for profit—intelligent feeding returns a profit. Feed a good balanced ration (Coulson's Egg Food) the year round so as to keep the fowls in good normal and healthy condition; then when the molting season comes and you want your fowls to molt, and get through molting before winter sets in, just start feeding them COULSON'S SPECIAL MOLTING FEED, and the fowls will soon be getting a beautiful glossy plumage (due to articles in the feed) and will get their new feathers in short order; for in this Special Molting Feed they get the material needed for feather production.

Knowledge is power, and the knowledge needed now by poultrymen is to know just what foods contain the most of certain kinds of nutriments, and will produce the rapid growth of feathers and also keep the bodily health of the fowls. This is why it pays to feed Coulson's Special Molting Feed during the molting season.

Young healthy fowls fed on the right kind of feed will complete their molt in sixty days; older fowls will take longer. Birds not properly fed during the year will be weak during the molting season; they lack vitality, and will molt very slow, probably taking six or more months to get their new growth of plumage, and quite a number of the weaker birds die from the strain of molting or from exposure.

Loading Cars with Coulson's Food for Laying Hens



Interior Scene of Coulson Co. Manufactory

Young birds will molt and grow new plumage at expense of health; old fowls will keep up their bodily needs, and go bare unless they are furnished the proper food to make the feathers grow.

The molt is a strain on the vitality of any fowl, for besides keeping up the heat ,and wear and tear of the body, the fowl must produce and grow new feathers; consequently the fowls should be fed a good rich food containing the right component parts of ingredients that will make feathers, and unless fowls are kept in good healthy condition, and fed the right food, many fowls will die during the molting season.

When fowls have been fed the year around one meal a day of Coulson's Egg Food so that they are in fine health at the beginning of the molt, if they are fed then for two months on Coulson's Special Molting Food, the growth of new plumage will be rapid, the new feathers appearing gradually as the old feathers drop off; and the bird may never appear worse than a little rought coated, and the eggs production will average about one in three days. Some birds even doing better, according to their digestive capacity.

Any one keeping fowls will surely be pleased to get eggs in fall and winter when eggs are bringing the highest prices. For this reason one should assist the fowls during the molting season, by feeding them Coulson's Special Molting Feed, so that the fowls will get through the molt before the winter weather sets in. The fancier also desires his fowls to complete their molt early so they will be in exhibiting condition for the poultry shows.

Fowls fed on Coulson's Special Molting Feed will have a beautiful bright, glossy plumage (a condition of perfect health), and will be pleasing to the eye, so that the owners will be proud of their birds. This feed supplies the fowls with the minerals and protein substance etc., needed for the growth, so that fowls can complete their molt and begin laying before winter.

MAKES HENS MOULT IN HALF THE TIME

MANUFACTURED BY

The Coulson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 1 LOS ANGELES, CAL., FRIDAY, JULY 7, 1905 Subscription $1 a Year

Is Deep Orchard Cultivation Beneficial

Does it pay to plow so deeply as to cut roots? Are the trees injured if some roots are cut?

An investigation of the average orchard of California reveals the fact that it is not ordinarily up to the condition which most orchards are, have received attention from newspapers as model orchards. In other words, the average orchard if far below the condition which prevail in the orchard which is planted for profit.

It is far easier to take a model orchard and show the good points wherein it has secured its degree of success than to take one which is not a model and bring from it lessons which may aid in raising the general average. But mistakes to be avoided are sometimes just as desirable to learn about as are the successful methods. Therefore. it is possible some little profit many be secured by inquiring of those orchards that are only average or below the average and learning wherein they may be raised to a higher state of productivity and besides place upon the market a higher grade of fruit than is now done.

While talking with the managers of one of the orange packing houses of Southern California recently, the remark was made to us that in a fairly good year, that is a year in which conditions favored production of fine fruit, ten per cent was a high average of the fruit which would pass as fancy or extra fancy. A little more would go as extra choice, but the great majority would be classed under simply choice.

Now, while it is well know that picking, packing, business management, freight and practically all other expenses are just as great on a low grade fruit as a high grade and that the draft upon the soil is just as great to produce a cull as it is to produce a fancy, it appeals to us as a most vital question—how can the orchards be put into the condition which will raise the percentage of the higher grades?

It goes without saying that many individual trees will never, under any method of cultivation, produce a first class fruit. The orchardist should have intelligence and grit enough to learn which trees those are and uproot them without allowing them to take further nourishment from the soil and further place on the high priced land which usually prevails in California. Of course, some of these trees may be stocky, thrifty, in general condition, but of a variety which is inferior. Of course, such roots and stalks may be saved by rebudding and removing the old top entirely, but discussion of that side of the question is not the purpose of this article, so much as to determine whether in the soil, mechanically or chemically, there is a condition which should be corrected to greatly increase the percentage of fine fruit. Observation quickly determines that that is a greater factor than the question of varieties for many orchards have been rebudded where there has been a mistake in the purchasing of the root to the extent that nearly all orchards are now fairly true to name.

Rye Grass Hay on San Joaquin reclaimed lands

Gathering Pole Beans on Delta Lands near Stockton

* * *

Mechanical Condition. — While it may be a question which many will dispute, we believe there are vastly more orchards in unthrifty condition from lack of attention to the mechanical condition of the soil than there are to the lack of chemical fertilizer. This is not to be meant to be any reflection whatever upon commercial fertilizer for we believe they have a vast influence for good in the hands of the intelligent orchardist and later will be given more attention than in this paragraph.

Almost invariably the unthrifty looking orchard will be found to have an artificial hard-pan, will be found to have its roots altogether too close to the surface, will be found to have been treated to shallow cultivation for a period of years, as a rule seldon plowed, and likewise generally treated to frequent irrigations of short duration. Generally, the absence of weeds in this class of orchards is noticeable. That is, there has been clean surface cultivation, the orchard looks well cultivated and all surface mulch is fairly well fined, and very often the entire soil surface looks as if sandpapered. Therefore, we believe the mechanical condition depends more upon the treatment of the deeper soils than of the surface soil. Of course, it goes without saying, as has been spoken of in this paper many times, that following irrigation there must be early filling in of the wet furrow, to be followed by a system of cultivation which will save all the moisture possible.

Now, regarding the use of this surface soil, we are perfectly aware that Mr. J. W. Mills, of the Pomona Experiment station, has shown in these columns the great advantage of utilizing as much as possible this soil because of the heat of the sun an dthe action of the heat of the sun and the action greater proportion the food elements in the upper layers of the soil. But, regardless of the amount of root cutting which may be done by deep culture, we believe the roots will naturally soon fill any surface soil which may be kept in good tilth so that such fertility as is not carried down to the roots in the lower strata will soon be sought for by the little rootlets reaching up for it. Therefore, without combating his theory of the greater fertility of the upper stratum, we believe there is a vast storehouse of fertility below that will never be reached by the rootlets of the tree unless they are encouraged and even forced to seek those lower lvels.

* * *

An Experience.—The writer well recalls his experience in orcharding where too deep plowings every year were given, that is, deep surface plowings, not with subsoilers, but say ten inches at least, possibly twelve inches. In doing so, the roots of the trees, which were Washington navel orange trees budded on "sour" roots, which have a reputation for one of the most fibrous surface feeding systems of roots, and these were thrown out on the surface in great quantities. This was not true one year only, but every year, and, we recall, our neighbors who were not believers in the deep plowing system, would stand with expressions of actual pain on their faces and regret that the foolkiller was not present to save these orange trees. However, while that was ten years ago, these same orange trees today

(Continued on Page 13)

82671

POISONED STRAWBERRIES.

Along the line which Mr. Isaac spoke in his article last week, of the fake report of poisoning of eaters of strawberries from the Paris green, we note in the Sacramento Union reports from Florin which show that diligent inquiry has been made by interested parties regarding these reports, especially among the patches of the Japanese gardeners, and not only has there been found no ground for such talk but there has been found no reason why any Paris green spraying is ever used on strawberries.

The account says: "So far as known no predaceous or injurious insects have ever infested the strawberry vines in this vicinity and the conclusion reached by every one to whom the subject was mentioned was that the person who originated the statement was romancing. Should that report be false it is no more than just that the name of the person so reporting should be exposed and the indignation of an aroused community be wrought upon him."

REFRIGERATION OF PEACHES.

Readers will recall the recent accounts of the Cultivator of the experiments of G. Harold Powell, special field agent of the Department, with orange shipments from Southern California under special refrigeration. We announced at the time of the last article that Mr. Powell left the citrus experiments for the same line of work with deciduous fruit passing through Sacramento. At last reports ten carloads of peaches had been shipped from Newcastle to test his method of work. Of course, one of the principal points which Mr. Powell is determining is as to whether peaches may not be allowed to ripen on the tree and become sweeter, then placed on the market so as to reach there with less decay than has been the result in the past with much greener fruit. As was the case with oranges and prior to that with apples in the East, Mr. Powell recommends thorough ripeness of the fruit on the tree, careful handling and quick cooling from the temperature at which the fruit is at picking to 38 to 40 degrees and allowed to stay there until ready for delivery to the eastern purchaser.

From an interview in the Union, we note that W. A. Beard, secretary of the Sacramento Development Association, notes that, as was the case with the experiments in Southern California, "The present experiments will not be of a commercial nature, and Mr. Powell is careful to encourage no expectation of greater returns from shipments under his direction. The object is to determine whether the principal applies to California fruit, and if it does, commercial experiments will follow. The fruit shipped will be sold after the inspection.

"Newcastle is regarded as an especially favorable point because of the importance of the fresh fruit shipping business there. A number of growers are interested, and ten cars will be shipped. Two refrigerator cars will be sidetracked and used as cooling rooms.

"The experiments will be confined principally, perhaps wholly, to peaches for the present. Other fruits may be taken up later, and if the results justify and if the fruit growers evince an interest, the work may be extended later.

"The importance of this work to the fruit shipping business of California cannot be over estimated. Perfect refrigeration will overcome one of the principal drawbacks of the distance to market. At the present time California peaches intended for the Eastern markets are necessarily picked green. If the process of ripening can be arrested by perfect refrigeration Eastern consumers will be able to secure California peaches that are the real thing."

GEORGIA PEACH CROP.

There has been a material shrinkage in the peach output of Georgia this year, the Chicago Packer making the statement from a correspondent in the field that the crop will not be more than 35 or 40 per cent of last year's crop.

The Packer says. "Elbertas will begin to move between the 8th and 10th of July. There have been some few crops sold in lump, the buyer figuring they would cost $1 per crate f. o. b., while the grower figures on about $1.25. However, it is doubtful if there will be any money in them at $1 f. o. b., as it looks as if the whole State of Georgia will ship about the same time, the north and the south."

"SHORTS."

The Department of Agriculture of Canada is after the berry and small fruit growers who packed their fruit in short packages and is enforcing the law recently passed respecting the packing and sale of certain commodities, which reads that every box of berries or currants offered for sale shall be plainly marked on the side of the box, in black letters at least half an inch square, with the word "short" unless it contains, when level full, as nearly exact as practicable at least four-fifths or two-fifths of a quart.

ASPARAGUS.

Asparagus growers have had a hard season to contend with in the fact that the weather has been so cool that there has not been strong growth of that luscious vegetable. The season is now practically over, nearly all growers in the San Joaquin country having stopped cutting.

The Cultivator representative who is interviewing the farmers in Sonoma county, at this time about Santa Rosa, writes that the different growers with whom he has talked say that the prospects for large crops generally are good. Fruit is now showing better growth and the weather is much more favorable than earlier in the season. The section in which he is, especially about Healdsburg, Windsor, Fulton and Santa Rosa is largely wine grape country. Sulphuring is practiced very generally. The crop outlook is most favorable and should vary, from present indications, from three to eight tons per acre, owing to soil and other conditions. The growers have been assured that the price will not be under $15.

GOOD HOP PRICES.

In the canvass of various fruit sections, the Sacramento Union is finding a serious condition confronting the hop growers as to the total output, also determination on the part of the growers to stick to all the traffic will bear in the matter of prices. We sincerely hope the growers will consider their own interests enough to not get panicky and be willing to take any offering which the buyers may make. A great many of the growers are asserting that they will insist on the 30 cent price and stick until they get it, but already it has been found that some of these got "cold feet" after a smooth talk by the buyers. It is rumored that one buyer is attempting to induce Oregon growers to ship their hops to London and at an advance of 20 cents a pound. No reference is made to any such offer being made to California growers.

Regarding the condition of the market, the paper says:

Coast dealers are all back at their "old stands" ready for business. Generally at this time of the year they are on fishing or other vacations. Many of them have orders around 20 and 21 cents. They probably think soon will be a good time to pick up hops cheap before the advance gets fairly started.

As far as I can see the only thing the hop grower can safely do is to "lie low and say nuffin."

The chances are more in favor of a small yield than a large one. Nothing can definitely be known for six weeks yet.

Speaking of the situation, one grower says:

"Is it not time that we growers of California got together and talked over the proposition of a California Hop Growers' Association? Is there not brains enough among us hop growers to run an up-to-date business combination?"

CURE FOR PEAR BLIGHT.

A correspondent in the Farm and Ranch gives the following cure for pear blight which, if it works, is too simple and economical to be much of an obstacle in the way of saving the pear orchards of California. To be sure, the remedy was tried only on a few trees about the yard, therefore we warn our people that, as more than one swallow is necessary for a summer, this remedy may be taken with some grains of "salt." However, it is so simple that we advise a trial of it.

Regarding this remedy, the correspondent says:

"I had a fine young Bartlett tree standing in my yard; it blighted so badly one spring I cut away the entire top and burned it There was nothing left of the tree but a stub about twenty inches high. The same year it threw out new branches and made a wonderful growth. The next spring it blighted again. The top was cut away and burned as before.

Soon after this I noticed a remedy for pear blight; it was to put salt around the roots of the tree; this I tested at once, first pulling away the soil from the roots of the tree. Then I poured about one pound of coarse salt close around the tree raked the soil back and the job was finished."

This same remedy was then tried upon other trees by the same correspondent, every one of which has failed to show a particle of blight since the application of the remedy.

FRUIT TRAYS FOR SALE

2000 2x3 Pine Bottomed Fruit Trays for sale, 5 cents each.

E. A. BONINE, R. F D., PASADENA, CAL.

When writing advertisers mention Cultivator.

Ranch for Sale

13¾ acres 12 miles from Los Angeles, 2 miles from Rivera and 2 miles from Downey; also 20 minutes from Whittier electric. Three acres in walnuts, 7 acres in apples and pears, 1 acre in oranges and 1 in alfalfa. Family orchard of mixed fruits. Five-room house, good barn brooder house, new large hen house and other buildings. Ditches are cement and are paid for. Water costs 15 cents per hour. R. F. D. and telephone. Address owner,

D. F. CONANT,

R. F. D. No. 1 . RIVERA, CAL.

When writing advertisers mention Cultivator.

IF YOU SEE THE

NEW POMONA PUMP

Work, you will have no other under any consideration.

The long, easy stroke without any jerk or jar makes them popular at once.

Built on strictly mechanical lines, having a direct center pull on the rods.

Where one goes others follow and we are rapidly taking the country.

Every customer is a pleased customer and our best advertising medium.

Write for our new catalogue.

Pomona Manufacturing Co., Manufacturers.

POMONA, CAL.

When writing advertisers mention Cultivator.

I Can Sell Your Real Estate or Business

NO MATTER WHERE LOCATED

Properties and business of all kinds sold quickly for cash in all parts of the United States. Don't wait. Write today describing what you have to sell and give cash price on same.

A. P. TONE WILSON, JR. Real Estate Specialist, Topeka, Kansas

When writing advertisers mention Cultivator.

DEEP WELL PUMPS
SHALLOW WELL AND POWER PUMPS
OAK TANNED CUP LEATHERS.

A. T. AMES
GALT, CALIF.

Conducted by PROF. A. J. COOK, Claremont

BEEKEEPING FOR BEGINNERS.

I have frequently referred during the past few weeks to the bright prospects the present season for beekeeping in our State. There are two requisites, in California, for a good honey flow; we must have abundant rains during the winter season and warm weather during the time that the flowers are in bloom. The present season is ideal from the first standpoint; but for most of the season, so far, the weather has been too cold for either nectar secretion or for the bees to work well. I am now on the Sacramento river and I find that here, as also in the South, the unusually cool weather has worked to interfere with the storing of honey. In the past few days the weather has warmed up somewhat and the bees seem to be doing better. As I have before remarked, honey should never be extracted until it is fully ripe. This will not occur until it is at least partially capped over. We cannot too strongly urge that no one ever extracts unripe honey. Nothing will do more to injure the individual beekeeper or more to injure the industry than putting unripe honey on the market. It is quite otherwise with comb honey. While extracted honey is better left long in the hive, comb honey is better if removed early. If we wish our comb honey to be the whitest the supers containing the sections should be removed as soon as the honey is capped. If the bees use the combs as a highway for travel the comb will become somewhat stained and will not present that immaculate appearance which is so attractive in first-class comb honey. In case comb honey is removed from the hive, it is important to see to it that it is not injured by the bee moth. I have before remarked that the good beekeeper will have little to fear from this insect. This is certainly true in regard to the brood chamber and for the most part is true regarding every part of the hive, and the honey as well. It is true, however, that the moth will sometimes lay eggs upon the comb honey if left exposed and thus this product will receive serious injury. It is wise, therefore, to never suffer the honey to remain in exposed places. It is well to put it in rooms or boxes so tight that the bee moth cannot gain entrance and deposit her eggs on the comb. In case this is impossible, as is often true, it is always well to subject the comb honey soon after its removal from the hive to sulphur fumes. These should be strong enough to surely kill all larvae that might be at work. Even such a veteran, capable and experienced beekeeper as Doolittle recommends this fumigation preliminary to the shipment of comb honey.

As with all products of the farm, it is wisest to market and ship our honey as early as may be after the harvest is over. There are several reasons for this. First, it is good to have our money in our pocket; second, an early market is quite as likely to be the best, though this is not always the case; third, it is safest to ship, especially comb honey, before the cold weather sets in. Cold makes the comb brittle and thus the sections are more liable to injury.

* * *

BEEKEEPING IN NORTHERN CALIFORNIA.

It was my pleasure a few days since to visit my friend, Mr. Thomas J. Stevenson, on the Sacramento river, at Courtland, who is not only an extensive dairyman, but also an extensive grower of alfalfa. He also has a large and neatly kept apiary. Indeed, I knew his father as a successful beekeeper in the same place along in the sixties. Mr. Stevenson tells me that he gets a pretty fair crop of honey each season and, except that the weather is cold, he always looks for a large crop. I noticed the other day that on many of the hives he already has two supers and in some of these the sections are entirely filled. This honey seems to come largely from alfalfa. We see then, why the crop is rarely a failure. The water plane to so near the surface that alfalfa is invariably a success and is always grown without irrigation. Here, then, the beekeeper is independent of the rain and can usually count on a fair return for his labor and pains. It is a curious fact that alfalfa does not always seem to furnish nectar. It is true, though, that in the San Joaquin and Sacramento valleys, there is rarely a failure. Of course here, as elsewhere, if the weather is very cold, we cannot expect a large honey crop. A prolonged cold spell, however, in these valleys, is not to be expected. I believe that there is rich opportunity in many of the alfalfa regions along the Sacramento, where no bees are now kept for new apiaries. It was my privilege only yesterday to visit the wonderful Lisbon reclamation district, where I saw the finest alfalfa fields that I ever looked upon. Yet so far as I saw, there are no bees at all in this district. It would be better for the farmers if apairies were brought to these alfalfa fields. One of the chief sources of gain is in the seed from the alfalfa. There can be no question but what the seed will be much more abundant if bees are present in sufficient numbers to provide for ample pollination of the crop. Here, then, as in Nevada, Arizona, Colorado and Utah, the beekeeper and the general farmer will be mutually helpful to each other.

* * *

EN ROUTE FOR EUROPE.

We are already on our way to the other side of "the great pound." We passed, the other day, by the great orchards of Pajaro and Watsonville. I was surprised at the indifferent cultivation which I noticed in many of the apple orchards of that section. It illy comports with the splendid cultivation with which I am familiar in the citrus orchards of Southern California. Surely, with a fruit as valuable and important as is the apple in California, no grower can afford to neglect the best culture. Mr. Powell tells me that his father, in New York, has succeeded by use of cover crops and the best cultivation, to make his apple orchard an annual bearer. He has thus nearly doubled his profits. I suggest to our readers in the Pajaro region that they act in this matter and see if they cannot also duplicate Mr. Powell's experience.

* * *

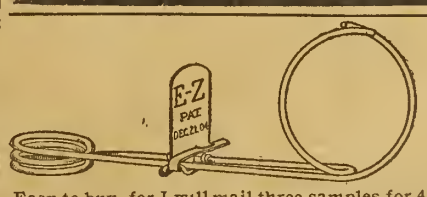
We also stopped off in the famous Santa Clara Valley at San Jose and Palo Alto. Here, as I expected, the orchards show a high state of cultivation. It goes without saying that the best fruit can come only with deep and ample tillage. I believe in Northern California, as in the southern part of the State, one of the great reforms in orchard culture will come with the use of some suitable legume as a cover crop in the orchard.

* * *

PEAR BLIGHT.

I was exceedingly interested in covering the same ground through the famous Bartlett pear region of the Sacramento that I traversed last autumn. It will be remembered that I then noted that the pear blight very much in evidence. Nearly every orchard showed its fell presence, while many were suffering very seriously. Today, I noticed very much less. While it is possible that the cool spring may have had some part in the better condition of the orchards, yet I believe, that not a little comes from the fact of Prof. Waite's presence and influence among us. Prof Waite urges the utmost vigilance in pruning off diseased branches and in the careful use of disinfectants while pruning. I suppose that it was largely due to the urgent request and push of Mr. Ernest A. Gammon, of Courtland, that Prof. Waite was sent by the Department of Agriculture to this important work. As we should expect, Mr. Gammon has been most vigorous in following to the letter Prof. Waite's advice. I have seen no other orchard so entirely free from blight as is his. Mr. Gammon keeps a very active man constantly at work. This man has gone over the entire orchard sixteen times and over portions of it eighteen times during this present season. The entire cost of this has been less than $100, while if the work saves the orchard, it will mean thousands of dollars in the pocket of the owner. I wish all of the growers were as alive to their interests as is Mr. Gammon. This is a matter of tremendous importance to the industry of our State. It is not only imperative that this close pruning be followed by every grower for his own profit and interest, but equally important for the good of the industry as a whole. Every man who fails to stamp out this disease becomes a public enemy. Let us remember how the Fresno region was utterly robbed of its great pear orchards through neglect to battle vigorously with this pear blight. The value of the pear industry in the Sacramento valley reaches way up to big figures. It is bound to go, root and branch, except as orchardists go into the orchards fully armed with saw and pruning knife. With the requisite care and vigilance these magnificent orchards may be preserved and our State made richer by hundreds of thousands of dollars.

THE MARK AND THE MOTTO
"The Recollection of Quality Remains Long After The Price is Forgotten"
Trade Mark Registered.
E.C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK REG. U.S. PAT. OFF.
The difference in *worth* between a good tool and a poor one is always more than the difference in *cost*. Counting the time wasted in constant sharpening and the short life of inferior tools, a poor tool is really more expensive than a good one.
Whenever you need a tool of any kind, it will pay you to buy the Keen Kutter brand, and have the best. All kinds of tools are made under this name, and every kind represents the very highest quality of material, workmanship and finish.
KEEN KUTTER
tools have been the standard of America for 36 years and are the only complete line of tools ever to receive an award at a great exposition—the Keen Kutter line being awarded the Grand Prize at the St. Louis Fair.
Following are some of the kinds of tools made under the Keen Kutter Brand: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Trowels, Pruning Shears, Tinners' Snips, Scissors, Eye Hoes, Shears, Hair Clippers, Horse Shears, Razors, etc., and knives of all kinds.
If your dealer does not keep Keen Kutter Tools write us and learn where to get them. Send for Tool Booklet.
SIMMONS HARDWARE COMPANY,
St. Louis, U. S. A.
298 Broadway, New York.



EASY TO CATCH GOPHERS
with the
E-Z
Easy to buy, for I will mail three samples for 45c. Send orders payable to
J. A. W. GATES, 216-218 W. SECOND ST., LOS ANGELES

California Horticulturally

By John Isaac, Sacramento, Cal.

THE ANNUAL GRASSHOPPER SCARE.

The grasshopper scare is increasing in the northern counties, if the sensational press dispatches are to be believed. This is a pest that we may always expect to have with us so long as it can find suitable breeding grounds. It was infinitely worse in the past than it is of late years, and history informs us that as early as 1827 they ate up all the growing crops and from 1838 to 1840 they destroyed all the gardens about San Francisco and San Rafael. There are yearly recurring swarms all along the warm gravelly foothill sections of the State, as it is here that they find their ideal breeding grounds. But as the country becomes more extensively and more thoroughly cultivated these swarms become less and, while they now sometimes appear to be serious enough to those who have orchards or farms near their vicinity, they are nevertheless much fewer and less destructive than they were in the past. Another good thing about our California locust is that its depredations are limited to a few weeks duration early in the season. This season is long enough, but they are not so bad as the Rocky Mountain locust which continues to devastate the country in enormous swarms through the whole season. As soon as the California hopper acquires wings the worst of its work is over. It then spreads over a large area, and while it may do some damage, it is so widespread that its results are not so noticeable as when they are confined to a limited area. The best remedy for the pest so far is the bran, arsenic and molasses mixture, which has been found effective in the State for so many years. It will not exterminae them, but in the case of threatened vineyards or orchards, it will reduce their numbers and the consequent damage materially.

* * *

NEW HORTICULTURAL OFFICER.

Mr. E. O. Bremner, who has been acting as County Horticultural Commissioner of Sonoma county for some time past, has received the appointment as Assistant Inspector in the office of the State Horticultural Commissioner at San Francisco. This appointment has been made in accordance with the sentiments of the fruit growers as expressed at the last Convention, when it was decided that it was necessary to have more assistance at San Francisco to properly look out for their interests at that port. Mr. Bremner has made a good reputation as a skillful entomologist and as an efficient officer in his own county and will undoubtedly make a good record for himself in his new office.

* * *

THE NEW CODLING MOTH PARASITE AT WORK.

In all my statements in relation to the work of beneficial insects in these columns, I have attempted rather to understate than to over estimate their work. I have always found it safer to tell what they have done, rather than what they are going to do, as there is always a great deal of uncertainty as to how an introduced species will behave itself in its new home. This was my policy in regard to the Scutellista and it was not until I was fully convinced of its good work in our orchards that I claimed for it the credit which it now justly receives. There is now no doubt that it is the enemy of the black scale and, while there may be occasional outbreaks of this pest, it will never again be the destructive and costly enemy to our fruit growers that it has been in the past. I have so far refrained from claiming much for the new parasite of the codling moth, for it is a new insect here, our conditions are very different to those of its native land, and there are numerous contingencies to be met before it can be claimed to be successful. In confinement it is without doubt a very effectual enemy of the moth, but what it would prove in the open is yet somewhat uncertain. It is for these reasons, therefore, that I am more than pleased to quote the following from a private letter received concerning the work of this new parasite in the orchard. As this communication was in the nature of a confidential statement from one who is interested in the work of this parasite to another who is equally interested, and was never intended for publication, its statements may be accepted without question, and serves to indicate that we have at last secured what there is every reason to believe an effective check to one of the worst orchard pests in our State.

"Yesterday went over to Novato, to the property of the Novato Land Company, in response to a statement that the Ephilates were there by hundreds. The place has 11,500 acres in it, the old DeLong apple orchard, and I was very much surprised and more than pleased to find the parasite flying about in large numbers, found them on my hands, caught them in my net, and had the pleasure of having the foreman tell me that this is the first season in many years that the orchard was nearly so free from worms. They claim that there is over 50 per cent improvement over past years. The fruit looked well and there are very few wormy apples. This is certainly very encouraging, and as I saw it myself I know that it is so."

* * *

PEAR BLIGHT LESS VIRULENT.

Reports from the pear section of the northern counties are rather encouraging so far this season, and indicate that the disease is not so virulent as it was a year ago. In many of the orchards along the Sacramento river, where it was so bad last year, there is very little indication of it this season, although in others it has shown up in full force, and in all is certainly bad enough. So far, this disease has not been nearly so bad in the northern counties as it was in Kings, Tulare and Fresno counties a few years back, and growers are hoping that it has "run its course" and will not be so troublesome in this section as had been feared. There is yet ample time, however, for it to manifest its presence on a wider scale, but as yet there is every reason to believe that it will not be so bad as it was last season.

The young man who wrote and asked his girl to accept a "bucket" of flowers became a little pale when she said she wooden ware it.

ANAHEIM DISEASE INCURABLE.

Professor Bioletti, recently returned from South Africa and now at the head of the Viticultural Department of the State University, announces that he fears that the Anaheim disease, which is proving to be so deadly in many vineyards of both north and south, is incurable. In addition, Professor Bioletti has been investigating the work of the Adoxio-Vitis, a beetle fly which is supposed to cause the grape to fall to the ground. The Adoxio Vitis is also supposed to be responsible for the flecked condition of the grape known as "sunburn." Professor Bioletti has made a study of both of these diseases and finds that the beetle is responsible for the falling of the berries, but not for the sunburn, and it will be necessary to look for some other cause for the sunburn if it is expected to eradicate it from California orchards.

CURL LEAF.

Editor Cultivator:—I am much interested in discussion of insecticide and fungicides in the Cultivator and ask for information regarding preventing the trouble of curl leaf and what I believe to be the shot-hole fungus on peach trees. The leaves wilt and die soon after coming out in the spring, especially on the lower branches.—R. R. B., Hanford.

Any one desiring information regarding curl-leaf should write the Department for "Peach Leaf Curl," a report by Newton B. Pierce, published by the Department of Agriculture, Washington, D. C. Treatment for the trouble is with the Bordeaux or sulphur lime and salt spray, applied in the winter when the trees are dormant. The description which you give, however, of leaves falling soon after appearing hardly applies to the peach leaf curl. The name of the disease is descriptive of the trouble, for the leaves draw and pucker out of all shape and give a regular curl or distorted appearance which may not be yellow, more likely is green. However, the washes which we have recommended, description for the making of which appeared in a recent number of the Cultivator, are good preventives for any fungus disease.

GOOD ROADS.

In talking to a farmer recently after driving to the city of Los Angeles from an outlying section with a load of produce, we are convinced more than ever that financial advancement cannot come to farmers of this State faster than by working for better roadways over which to carry the produce of the ranches to market. The farmer in question remarked that in going to market with his load of produce he met generally hundreds of teams, for the road was one of the most traveled into the city. His trip occupied twice the time it should have taken, because of the great chuck holes which filled this well traveled thoroughfare. With light driving rig or even with a light load, the loss from such roads is not so noticeable as where the farmer attempts to move his heavier crops. But, as it was, the whipping from side to side of the pole of the wagon even endangered the legs of his horses, and caused serious wear and tear upon harness, wagon and team. He ended his account of the trip in and the incidents connected with it with the question, "When will Californians wake up to the fact that the cost of transporting farm produce to market must be materially reduced if we are to compete with other sections of the world in marketing our produce. It is almost impossible to conceive the difference in cost between transporting a load over a smooth hard road of even grade and that of the ordinary chuck-hole, dust, boulder combination."

We presume it will be many years before this farmers' question will be answered.

One of the leading and successful real estate men of the Middle West, A. P. Tone Wilson, of Topeka, Kansas, is now advertising in something over 2500 different papers and magazines and has connections with over 2000 agents and branch offices. He is a real estate specialist and is strongly recommended by the daily and weekly papers of his home city. His advertisement appears in this paper.

New York state, especially the western portion, will have a full peach crop this season.

We Can Save You More Money

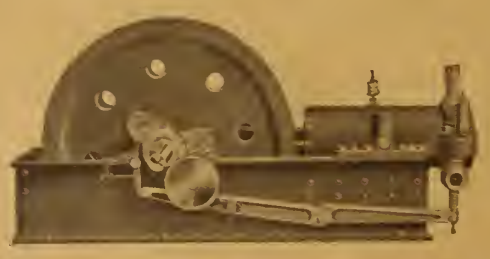
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building Shops and Yards: 860 North Main St.
Phones: Home 2367; Sunset Red 2811 Phones: Home 1088; Sunset Main 1088

When writing advertisers mention Cultivator.

Is It a Success? **Will It Stand the Test?**



BETTER,

Has It Stood the Test?

IT HAS,

AND IS TODAY A

SUCCESS

Built in California to Stand Hard Work: Simplest, Best, Cheapest.
Write for further information.

M. C. TUNISON, Designer and Builder 717-721 N. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

AERATION OF SOIL.

In other articles I have emphasized the importance of the presence of water in the soil, but the presence of an ample amount of air in the soil is as indispensable to the life of upland plants as is that of water. When the soil is flooded and the pores fiill with water for any great length of time, the upland plants will sicken and die, and this too, when they are in full leaf and are abundantly supplied with food and warmth. The cause of this is that the water excludes the air from the soil and prevents the root-breathing of the plants. Water plants, like the pond lily, whose roots are continually in soil under water, are provided with a system of air cells in the plant and its roots that furnish the roots with the needed amount of air. All plants require air for root breathing.

Plants that form water roots secure their supply of oxygen from the water, as all water contains a certain amount of air. Water is more easily penetrated by air than the soil and where the pores of the soil are water clogged there is practically no ventilation and the soil water does not absorb the air.

The oxygen of the soil air is withdrawn for use in the chemical action taking place and where there are leguminous plants the nitrogen is used by the micro-organisms to replace the oxygen and nitrogen so used. There must be a free ventilation of the soil to admit fresh supplies of these elements.

Air is also indispensable in the work of nitrification or the change of the nitrogen of the soil into nitrates in order to become available for the use of the plant or tree. The micro-organisms which form the nitrates require the presence of air in the soil. Not only must it be present in the soil but there must be a free circulation in order to furnish fresh supplies of oxygen for the use of the micro-organisms of ferment. Carbon dioxide is also produced in the soil and the oxygen and carbon used must be furnished by the soil air.

To influence soil ventilation the soil should be porous and the surplus water should readily pass down into the subsoil, the air following the water and thoroughly aerating the soil in which are located the root system of the plant. With certain soils over irrigation will fill the pores of the surface soil and exclude for a time the air, with injury to the tree. While we have advised heavy irrigation on ordinary soils, there are cases where the soil can be over-saturated with water to the injury of the tree There are two ways in which the air can be excluded from the soil, first by excess of water that shuts out the air; second, by the forming of a hard soil stratum near the surface that partially or wholly excludes the air and prevents soil ventilation.

There are three ways in which to aerate the soil, by deep tillage, the presence in the soil of a good supply of humus and vegetable fiber, and the use of deep-rooted, green manuring plants that penetrate the sub-soil, which by decaying leave air passages. Earth worms are also a means of aerating the lower depths. Deep tillage, the supplying of humus and vegetable matter and the growing of green soiling crops will acrate the soil and in many cases will produce a wonderful change in the condition of the trees.

* * *

Soil Temperature.—"There is no physiological fact more evident than the extreme importance of maintaining the right temperature surroundings for living forms of all kinds." The work of nitrification is accomplished by the micro-organisms that change the humus of the soil into available form for the use of plants. These micro-organisms of ferment and putrification are a lower order of plant life and not only require water and air but will not be effective only when the temperature of the soil is raised to a certain degree. The lowest soil temperature, according to Ebermayer, at which the processes of growth are started in most cultivated crops, is from 45 to 48 degrees F., but the mixiumum results are attained only after the soil has reached a temperature of 68 to 70 degrees. With a low temperature it will require several days to accomplish the same results in furnishing available nitrogen where, with a high temperature, the same result would be accomplished in a sigle day. King, in his work on soil says: "One of the chief functions of soil water is to take into solution from the soil constituents, substances which, for the most part, dissolve, under the most favorable conditions, very slowly. Now, raising the temperature of the soil grains weakens the attractive force which holds the plant food locked in the solid state, while at the same time it makes the diffusion of the dissolved materials, away from the seat of action, more rapid," and unless the dissolved materials are removed as soon as formed, they, by their reaction against the force of the soil grains, tend to prevent further action from taking place. It is not only important that there should be a rapid diffusion of the dissolved food away from the places where it is being formed, through action of soil water, but it is even more important that this process should be carried forward in the soil air.

Heat is the source of energy in plant growth. Increase of heat stimulates growth of plant life. Water absorbs heat very much slower than soil grains and a soil saturated with water warms but slowly. The evaporation of water from soil surface rapidly lowers the temperature of the soil, for it takes 966.6 heat units to evaporate a pound of water and this heat by the evaporation is lost to the soil, therefore cultivation which prevents the evaporation of water increases the temperature of the soil. The influence of heat in the growth of wood and foliage in the citrus orchard is evident in midsummer and early fall. While the young orange tree will begin making wood in the month of March, the bearing orange tree does not make wood until July or until the soil temperature has increased to a degree that stimulates the micro-organisms to furnish a good supply of available nitrogen. When once the temperature of the soil is raised to the proper degree of heat, it retains the stored heat into the fall months continuing the growth of wood and the storing up of the reserve material for the bud and blossom of the next spring. All nitrogenous elements artificially supplied to the soil should be in available form at the beginning of the principal season of wood growth. It is sometimes important to reduce the heat in the soil, as for instance, during the late fall and winter season, when, with an open, warm winter, the orange crop is hastened to maturity, causing a severe dropping of the fruit. By observation I am inclined to believe that orange orchards during the past winter that had a covering of weeds or peas held their friut much longer with less dropping than where the orchards were cultivated and kept clean from all plant growth. It is probable that the shading of the ground from the rays of the sun lowered the temperature or, rather, prevented a rise in soil temperature.

THE TANGELO.

We referred last week to new creations in the line of citrus fruit as carried on in Florida by the U. S. Department of Agriculture, giving particular description of the citrange and its characteristics. Besides that fruit, the hybrids of tangerine and the better classes of seedling oranges have secured other desirable fruits.

The tangerine has also been used to cross with the pomelo which has given a citrus fruit neither an orange nor a pomelo, to which has been applied the name of tangelo.

The Tangelo.—Another group of desirable fruits has been secured by the crossing of the Dancey tangerine with the pomelo which gives a fruit neither pomelo or tangerine, not as sour nor as bitter as the pomelo, yet with more tartness and more of the appetizing quality for a breakfast food than the tangerine. This fruit is eaten from hand, more as a tangerine is, by separation of sections, dipped in sugar, rather than by scooping out the pulp, as is ordinarily done in eating a pomelo. It is claimed that this fruit will be a favorite with those who have found the pomelo too bitter or too sour for their taste.

New Tangerines.—There have also been a number of improved tangerines produced larger in size than the original tangerines and yet with its loose, easily removed rind and fewer seeds. One of these was secured by the crossing of the Dancey tangerine with the pollen of the Parson Brown orange. This is called the Trimble tangerine.

Another is the "Weshart tangerine," a delicious fruit of exceptionally fine appearance and flavor. Its large size, superior quality and earliness indicate that it will prove of great value for general cultivation in orange regions. In general it is smoother in surface and rather smaller than the Trimble tangerine, but is apparently superior in flavor."

"IT'S PENNY WISE"

Policy to set out a good tree, costing good money, and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructable. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe avenue, Los Angeles.

VALENCIA LATE ORANGE TREES

Are getting scarce. We still have a few hundred first class trees that HAVE NOT BEEN CULLED OVER, and we are offering them cheap. Give us your order now. Also hade some Marsh's Seedless Grape Fruit, Dancy Tangerines, Navelencias, Lemons, etc. We can furnish these from our Glendora nursery, or other nurseries. Address
Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.
When writing advertisers mention Cultivator.

20,000
Orange and Lemon TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.
When writing advertisers mention Cultivator.

CITRUS TREES

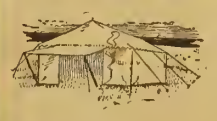
Largest Citrus Nurseries in the world.
Every tree guaranteed true to name and healthy. You will find our book about Citrus Culture valuable —it's free. Write for prices and any information you need.

San Dimas Citrus Nurseries
R. M. TEAGUE, Prop.
SAN DIMAS, CAL.
When writing advertisers mention Cultivator.

HOEGEE'S Khaki Suits
To Order
ALSO CANVAS, DUCK, CORDUROY AND LEATHER.
Laced Boots, Leggins

Hammocks FINEST LINE In CALIFORNIA
BIG, BROAD-GAUGED, HANDSOME

IRRIGATING HOSE



Tents
All Kinds—Camping, Mining, Living, Lemon, Fumigating.

WRITE FOR CATALOGUES

THE WM. H. HOEGEE CO.
Incorporated
Phones: Exchanges 87.
138-142 So. Main St., Los Angeles
When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

WOMAN ON THE FARM.

We have been reading what a large number of women have written about life on the farm and find therein some thoughts that are well worthy of a more extensive circulation. There is no question but too little of social life is in evidence in many rural communities; as one woman bluntly states it, "we attend one another's funerals, but have no time for other social functions." Organize a woman's club in every community for the betterment of the farm woman and her daughters. Select some subject from a current magazine for discussion, and thus obviate the tendency to gossip. This will give rise to expansion of home duties, as well as tending to broaden opinions upon the chief topics of the day. Keep plenty of good literature in the home. Where economy is necessary in purchasing magazines, families may club together and purchase a number to be read in turn, meeting once a month to discuss articles of general interest. Afternoon sewing circles could be made beneficial by a course of reading.

Bring up your children to respect farm life, and never let one word fall that shall give them cause to think there is anything degrading or uncultivated in being a farmer. Three-fourths of the occupants of farms, both men and women, need to fall in love with their farms and then set to work to clean them up. Though surrounded by the beauty and harmony of nature, many are blind and deaf to such environments. The farmer often has so little eye for the beautiful that the stable yard and ugly outbuildings form a veritable blot on the landscape instead of blending into the meadows and woodland beyond. Man has no right to make these "blots on the landscape." It is the duty of every one to at least replace as much of natural beauty as he destroys in denuding the earth to get a site for buildings, yards, etc. Put in plenty of trees, for shade and protection, as well as for ornament. Make the front yard fairly teem with herbaceous and shrubby flowering plants. Sow broadcast each season, or several times each year, seeds of flowering annuals, so that a constant change, and not monotony, is present. It is not necessary to go outside of our native flowers to supply these latter. They thrive better than the majority of pampered introductions, and aid to blend your little landscape into a part of that around you. Have flowers everywhere, taking advantage of every unoccupied spot. Looking at the things we love, watching them develop, and anticipating the fulfillment of their possibilities, lets the sunshine into the clouded brain and heart, brings a happy light into the eye, and a buoyancy to the step; therefore, "grow more flowers." The woman in the country in her nearness to nature has a beautiful opportunity, if she will cultivate her perceptive and receptive faculties . . . "The billowing fields of grain, the green of the circling forest, the drift of bloom, and the delight of perfect fruit hanging low on the boughs, all have wonderful messages for her alone, if she will take the time to see and learn them.

The spirit of beauty, like the kingdom of heaven, is within you, and you have only to become as little children and let the magic of Mother Nature charm the eye into seeing that sees not, and the ear into hearing that hears not, the beautiful sights and sounds of this fairy-like world of ours as the seasons come and go."

RESTING POT PLANTS.

House plants that have flowered through the winter should be given a rest and not allowed to go on blossoming. Summer is the season of inactivity for them and they should be started on it as soon as possible. Encourage them to recuperate; do not give rich soil or large amounts of water, for they encourage vigorous growth. The plants should remain as nearly dormant as is consistent with good health. Cut back well, prune into something like symmetrical form and keep watch of them as growth is made. Pinch back when it seems necessary to do so to secure good form. Act on the principle that you are trimming the twig from which the tree is to develop. Training and development should go on together. If you wait until a plant is developed it may be too late to train it into perfect form.

FOR DRY, HOT SOILS.

Portulacas are tender annuals which grow from six to eight inches high, and a bed of them makes a dazzling display of color in the bright sunshine. They should be sown during warm weather, as the seeds require a moderately high temperature for germination, and should be sown where the plants are to grow. The plants do best in a hot, rather dry ground, and the soil need not be rich. The flowers close in shadow but are open in sunshine, and are therefore peculiarly suited to our climate.

ATRIPLEX BREWERI.

The range of this excellent native "salt bush" seems to be quite limited, extending from a few miles above Santa Barbara to a point on the beach nearly opposite Los Angeles. The most southerly station, as far as we know, is at Ballona, or as it is now called, "Playa del Rey," where the writer found two plants on the shores of the lagoon. Though most useful for hedges, it makes a fodder plant worthy of trial; fowls of all kinds eat with avidity; one party who planted it for hedge finding it impossible to grow because the chickens ate off every leaf as soon as they appeared. As it grows wholly without care it may prove a profitable plant for poultry producers.

WORLD'S LARGEST TREE.

During the month of August, 1902, there was discovered in the Sierras east of Fresno, the biggest known tree in the world. It was later visited by John Muir, the naturalist, who reports that its circumference at the base is one hundred and nine feet, or a diameter of thirty-six and one-half feet. At four feet above the ground the circumference was ninety-seven feet. This tree is considerably larger than "General Sherman" and General Grant" the two which heretofore were the recognized monarchs of all "Big Trees."

HOME GROUNDS.

There is no work more entrancing than that of the arrangement of the home grounds, which comprises, in the broadest sense, extent of lawn, number and variety of trees, shrubs and other plants; location of flower beds, drives and paths; and the proper adjustment in the size, shape and color in the placing of the principal buildings. The country home has the advantage over the cramped grounds of the city, and has ample space for the proper disposition of all the above noted features.

Let your grounds be simple and restful rather than strain for bold effects, and an air of peace and quietness will pervade the whole and whether it be a cottage or a mansion, it will be a home in the fullest sense of the word, a fact readily noticed by the observant passer-by. A well known public man says: "We instinctively judge of a man's personality by the outward aspect of his home."

It is an unquestioned fact that the cultivation and care of a garden instils love of nature and has an uplifting and enobling influence on mankind. Go where you will, you will meet with the best reception in every way at such places where the greatest love is manifest for the beauties of nature. When the traveller comes upon a home where there is a roomy, well-planned, well-kept garden, he at once feels a desire to know the inmates personally, for he is certain to find there more or less of generosity, intelligence and refinement.

Children reared in homes where the parents are indifferent to the appearance of the home grounds, are indeed unfortunate, for they lose nearly all chance of acquiring that love of the beautiful which is so elevating, so enobling.

"One impulse from vernal wood
May teach you more of man,
Of moral evil and of good
Than all the sages can."

Those who, early in life, become imbued with this love of nature through home influences, carry it through life and it is a constant source of pleasure, not only to themselves, but to all who come in contact with them—an intense love of nature which marks them above their fellows. History proves that a taste for gardening has kept pace with the progress of civilization, and that it has always exerted a powerful influence upon the passions and feelings of mankind.

But it is not to the ornamental garden alone that the home gardener should apply all "odd moments;" the growing of fruits and vegetables is just as essential to the ideal life, just as uplifting in its influences, and certainly as profitable from a monetary standpoint. This part of the garden, more properly called the kitchen garden, should be so planted that it may furnish the family table with a succession of seasonable vegetables througout the year. The growth of a spring and summer crop may be sufficient for the snow-bound country east of the Rockies, but in California we may grow many "short period" crops, as lettuce and radishes, at any and all seasons. With the development of vegetables, such as the Crimson Winter Rhubarb, and others peculiarly suited to our winters, there is no reason why fresh vegetables should not be served to us during every month in the year.

A quiet home; vines of our own planting; a few books full of the inspiration of genius; a few friends worthy of being loved, and able to love us in turn; a hundred innocent pleasures that bring no pain or remorse; a devotion to the right that will never swerve; a simple religion empty of all bigotry, full of trust and hope and love—and to such a philosophy this world will give us all the joy it has.—David Swing.

BURBANK'S CRIMSON WINTER
RHUBARB

Plant 1,000 roots and you have laid the foundation for a good, steady income—an income that will average NET to you from $300 to $400 per acre, and in some instances even more has been realized.

PROGRESSIVE FARMERS are availing themselves of this unusual chance to secure a start in a crop of such sterling worth.

CRIMSON WINTER RHUBARB

Is very easy to grow, is a clean crop and a good shipper. Stems sent to the East during the winter bring 15c per lb., and more is wanted.

The industry is yet in its infancy, but at the present rate of growth will soon be one of our standard crops. As in any new industry, those who start early and right will realize the biggest profits.

A beginning can be made with 100 roots costing you $7.50, but for a right start you should plant at least 1,000 medium size roots delivered to your address for $50. $1.50 per dozen. I have free folder. Send for it.

F. GILMAN TAYLOR
BOX 87 GLENDALE, CAL.

When writing advertisers mention Cultivator.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino

When writing advertisers mention Cultivator.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, Etc
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

General Agricultural Notes

IMPROVING BRITISH WHEAT.

From the Crop Reporter of June we note: During the past two years experiments likely to result in important practical results have been carried on by the National Association of British and Irish Millers, looking to the improvement of the quality of wheat grown in the United Kingdom. Ever since the importation of wheat into England has assumed such vast proportions it has been recognized that, in a general way, all the varieties of native-grown wheat are, in varying degrees, inferior in "bread-making strength" to wheat imported from several foreign countries; in other words, that the loaf of bread made from the flour of natve-grown wheat is perceptibly smaller in size than the loaf made from wheat imported from some foreign sources, although equal weights of flour, salt, yeast, etc., be used in all cases. Practical experience has taught that the sections from which wheats superior in this respect to the native varieties come are situated on the great Continental plains and include, among others, Kansas and the spring wheat belt of the United States, Manitoba and the Northwest Territories of Canada, southern Russia and Roumania, the great Hungarian Plain, and some sections of Argentina. It goes without saying that wheats from all these foreign sources vary greatly in strength, according to country, season, soil, climate, degree of maturity, etc. Their general superiority over British wheat, however, is demonstrated, among other things, by the price each commands in the English markets; for instance, the average prices of No. 1 Northern Manitoba, Hard Winter Kansas and Russian during the season of 1903-4 were, respectively, $1.06, $1 and $1 per bushel, while the average price of the best English wheat during the same season was no more than 88 cents per bushel. All imported wheats, it may be noted, are not characterized by this superiority in strength over the home-grown article. "The British Indian wheat, the Australian, and those derived from the Pacific slope of North America," says a well known English authority, "are no stronger than the ordinary run of English wheats."

Now, to stop the tide of influence against the British wheat in the market, the Association of Millers has been calling for investigations which are already looking to some good.

The experimental work already done by the Association epitomizes much of the remarkable advance that, within recent years, has been made in scientific agriculture. Experiments, though generally on a small scale, have been made in selection and in hybridization; the effects of fertilizers and of soil inoculation upon the strength of wheat have been observed; the relation of strength to spring sowing versus autumn sowing has been tested; and foreign seed wheats in considerable variety have been introduced both to try the effects of the English climate and soil upon them and to observe the results of crossing them upon the native wheats.

The pronouncements of the Association that are probably most interesting from the American point of view are those referring to soil inoculation and to the planting of seed wheat of foreign origin. Concerning the former, a member of the Homegrown Wheat Committee, speaking recently in a council meeting of the Association, said:

"You will probably have heard of the German method of supplying plants with nitrogenous food by fixing the nitrogen of the air, and of the American variation of the method, for which striking results are claimed. In co-operation with Rothamsted, we are applying both methods this year, that is to say, we have obtained bacteria both from Germany and America and have with them inoculated soil in the specified way to see whether there will be next year any difference in the yield of wheat and straw and whether the fixing of nitrogen in this method has any appreciable effect on the strength. We all know that wheat grown after clover is slightly stronger than wheat grown after roots, and this inoculation of the soil by bacteria which we are now varying is simply an application, in what is claimed to be an effective way, of the method employed by nature to fix nitrogen by the growth of clover.

"In other words, if this work be successful, we shall be simply carrying out a form of manuring. The work involved is little and the expense very small. If for no other reason we think the experiment well worth our attention, but, having regard to our experience as to the effect of manure and to the effect of growing wheat after clover as against growing it after roots, we do not think that the process will be of substantial importance to us."

The "effect of manure" above referred to, was stated by the committee to be "that long-continued applications of nitrogenous manures in heavy dressings do actually send up the total percentage of nitrogen and dry gluten, but the baking value of flour from wheat so treated is greatly deteriorated."

The introduction and testing of seed wheat from foreign countries has been carried out on an extensive scale. Hundreds of samples from various sources have been sown; the general result has been that, with a few exceptions, all foreign wheats degenerate when planted on English soil and behave very erratically, though sown under identical conditions. Kansas wheat so deteriorated that experiments with it have been abandoned. Of several hundred Russian samples, picked out by hand selection, all turned out utterly bad excepting four; the yield of wheat and straw was exceedingly poor and degeneration very prompt. Of the four exceptions, however, three are now being cultivated for the fourth year; one promises to furnish a wheat excellent both in yield and quality, another is maintaining a very superior quality admirably, and the third is conspicuous for standing English climatic conditions exceedingly well. Four of the principal varieties of Hungarian wheat were also grown last year, all of them characterized by great strength—two exceptionally so. Though this was their first year in England, they degenerated greatly and have been pronounced of no use. A peculiar feature was that the sort which was least strong when sown in Hungary degenerated the least when sown in England. Of all the foreign wheats experimented with, however, the most promising results seem to have been obtained from an improved Red Fife from the Government Experimental Station, Ottawa, Canada. This wheat is now in its third year in England, has been grown experimentally in several localities, shows great properties of strength, yields very abundantly, and possesses remarkable adaptability. It has already attracted unusual attention and this year is being grown in quantity in several parts of the country.

"These results," states a member of the Association, "seem of the highest importance, for our greatest concern is to find wheats which, even if they fail in other respects, maintain their strength in this country. If we can do this our ultimate success is certain. * * * We recognize that success will be determined by certain varieties, used as parents in breeding, retaining their strength under our conditions of soil and climate, and it is essential that this point should be tested to the uttermost. We can not wait for the final test, so are crossing together all the varieties of any promise, as far as strength goes, with a number of the best English varieties, and also with a few of the new ones we have already raised which we consider have good yielding and good straw characteristics."

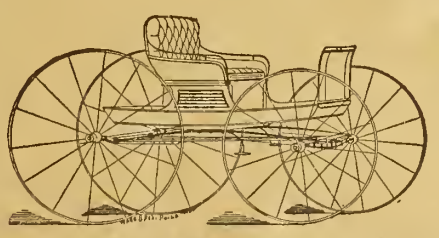
THIRTY MILLION FOR IRRIGATION

A rare day in June, three years ago, was the 17th of that month, the anniversary of the battle of Bunker Hill and the birthday of the national irrigation law. And the net result of the latter, at the beginning of the present fiscal year, is an irrigation appropriation of $30,000,000, with an automatic revolving law under which the fund is constantly increasing through additions from the sales of western public lands and the repayment to the government by the settlers of all expenditures for irrigation construction.

Were there to be no additions to the reclamation fund, its present thirty million dollars would eventually reclaim the West. But with the large yearly additions which have been coming in, it is destined before many years to reach the $100,000,000 mark and become a vast fund for the redemption of Uncle Sam's desert lands for settlement. And could there be a greater work than that of making homes for the people?

Includes One-Half of the Country.—Almost half of the entire United States is comprised in the area covered by these great irrigation projects, rivalling the gigantic works of Egypt and British India. The following amounts have been apportioned by the Secretary of the Interior in the different States and territories: Arizona, $3,600,000; Arizona and California, joint projects, $3,000,0000; Colorado, $2,500,000; Idaho, 2 projects, $2,600,000; Montana, $1,900,000; Montana and North Dakota, joint projects, $2,350,000; Nebraska and Wyoming, joint projects, $5,750,000; Nevada, $2,740,000; New Mexico, $280,000; Oregon, 2 projects, $3,250,000; South Dakota, $2,100,000.

Should the recommendation of the President be carried out by Congress regarding the repeal of the timber and stone act and the enactment of a comprehensive forestry law, the irrigation fund would be greatly increased. The government timber sales during the last two years under the timber and stone act have been about three million acres at a uniform price of $2.50 an acre, much of the land densely forested with the finest Washington spruce and Oregon and California fir and redwood, worth, according to official reports, from $20 to $50 an acre.—Guy Elliott Mitchell.



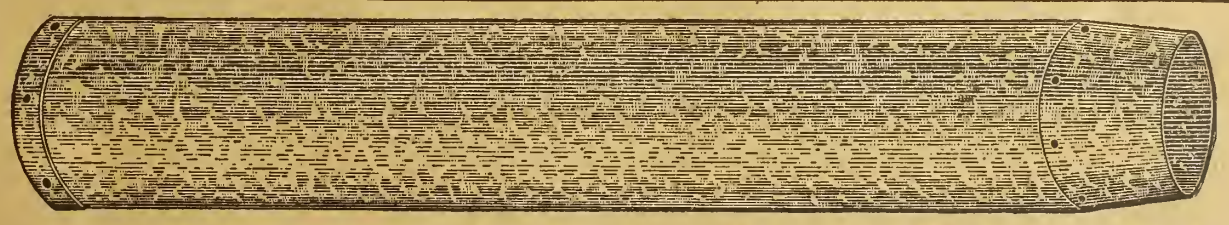
Buggies

OUR STYLES AND PRICES WILL INTEREST YOU

STUDEBAKER WAGON AGENCY

NEWELL MATHEWS CO. 200-202 N. LOS ANGELES ST. LOS ANGELES, CAL.

When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** WRITE FOR CATALOGUE

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1860
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR
AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, July , 1905

CONTENTS.

	Page.
Deep Orchard Cultivation	3
Deciduous Fruits	4
Beekeeping for Beginners	5
Grasshopper Scare	6
Codling Moth Parasite	6
Curl Leaf	6
Aeration of Soil	7
The Tangelo	7
Floriculture and Gardening	8
Improving British Wheat	9
Editorial	10
Coast News Notes	11
Report of the Dairy Bureau	12
A Great Herd	13
Cattle Quarantine	14
Poultry Danger Signals	15
Poultry Question Box	16
Queries and Suggestions	19
Household	20 and 21
Markets	22 and 23

Ups and Downs of Farmers' Life.—The Cultivator is in receipt of an interesting letter from an intelligent rancher at Los Gatos, in which he compares the life of the active farmer to the "professional" farmer who owns his farm, works it by proxy, as it were, depending on other business to tide him over loss of crops; to make improvements on his place, pay taxes and do whatever else is necessary to insure the success of his property. We know all about the trials, tribulations and sacrifices of the man, and his family, who depend on the annual crops to make their living. The difference between this man and the professional farmer is marked, of course. The former is in the business to pay, the latter as a recreation and pastime. But, ordinarily, both are anxious to realize from their investments while working from a different motive.

Our Los Gatos friend is prompted in his communication to say, among other things, that one drawback to the farmer, today, is the dictation of "unions," and another the multitude of holidays. Unions demanding wages that the farmer can not afford to pay, and holidays taking away from him time which he can illy afford to lose.

We grant all our correspondent says, about these discouraging conditions, and yet we know from experience that there is no life so full of genuine enjoyment, taking all things into account, as the life on the farm. It is independent. It is laborious, but full of pleasure. It lacks the mental strain which a professional career entails, and it gives health and vigor to the body. Happy is the young man who finds in the farm sufficient encouragement to make it a profession. When we compare the number of successful farmers, in America, to business men, and note the ups and downs of both, the preponderance is on the side of the farmer. In short, there are fewer financial failures in agriculture than in commercial life. We do not know of the daily bankruptcy in business, but we do know every man in the community who fails in farming—because it is unusual. The old saying is a true one, "stick to the farm and the farm will stick to you." If the farm be made attractive, as it can be, there is added pleasure in living on it. We still insist, that time may be found to make the farm attractive by keeping it clean and ornamenting with trees, shrubs and plants. That by making it attractive and homelike the sons and daughters may be made to love it, and by feeling an interest in it, stay with it, and the "old folks at home," until old enough to go out into the world for themselves.

* * *

Passing of John Hay.—In the death of Secretary John Hay, the country has met with a most serious loss. Probably no man in public life, since the time of James G. Blaine, possessed such a thorough knowledge of the diplomatic affairs of the nation, and was so well qualified to represent it on international questions as he. Since the days of Abraham Lincoln, he has been an active factor in shaping public matters, and his diplomatic mind has often shown its superiority when brought in direct connection with the most skilled representatives of foreign governments.

The country will miss the service of John Hay, probably more than any single man in public life, the President and one or two United States Senators alone excepted. He was able, in the broadest sense of the word. He was honest to the fullest degree, and while the older nations of the world had come to watch his diplomatic efforts very closely, because of their exceeding shrewdness, they never the less had the highest regard for his ability and integrity. He was one of the hardest working men in public life, and to his indefatigable toil he owes the shortening of his useful life.

* * *

Our Pauper Immigration.—The country ought to be aroused, and especially the authorities at Washington, by the report of Marcus Braum, who was sent to Hungary, to inquire into the nature of the emigration from that country to this.

Mr. Braum has filed his report with the authorities at Washington, and it is a most startling document. He states that during the last three years two hundred and eighty criminals, released from Hungarian prisons, were deported to the United States. More than this, he makes clear, what we have suspected, that there is a systematic understanding among officials to send to America the paupers, the moral lepers, the children of the worst classes, and this is systematically done by the use of fraudulent papers, both in Hungary and among the agents of the steamship companies.

What is true of Hungary is true of other foreign countries, which are sending us the worst of their criminals, their degenerate children and their paupers. Congress ought to wake up to the danger which confronts this country by the horde of tramps being foisted upon us, and so amend the laws as to put a stop to future immigration of the character described by Mr. Braum. We need quick, effective action.

* * *

The Future of Arizona.—The visit of the Congressional Irrigation committee to Arizona, and the recommendation it will make to Congress for a great system of irrigation for part of that State, is directing public attention to that country and its future possibilities. It is described by those who have studied its physical conditions as superior in general greatness to the arid districts of Colorado. If this be true, what may we not expect from the territory when it is watered by irrigation, as the country around Phoenix is. It will simply become a region unsurpassed in productiveness and unbounded in versatility of fruits and vegetables and grains.

The country possesses many charms in addition to its usefulness. We have before us a work written by Dr. J. A. Monk, of Los Angeles, descriptive of the physical condition and the life of the people who are pioneering Arizona. One is struck with the wonders portrayed in the Grand Canyon; the marvelous lights and colors of Meteoric mountain, a natural phenomenon, which scientists are studying today with more than common interest. The complete homes of that mysterious, prehistoric race, the cliff dwellers, the true aborigines who still adhere to their old rites, and refuse to mingle with the whites, are topics enticingly described in this little volume. One of the most interesting chapters of the sketch is the description of San Francisco mountain and the Painted desert, wherein are noted the several distinct life zones, running from the Arctic to the Tropic, within a distance of twenty-five miles. One wonders why people rush off to foreign countries to travel in lands whose physical phenomena do not compare with those presented in Colorado, South Dakota, California and Arizona. Far better to study the wonders of our own country than to rush away to foreign lands in which we have no national pride, nor interest.

But in Arizona, we are to witness, when the country is well irrigated, such marvelous development as shall create amazement even in the minds of those who are familiar with the growth of the great West.

* * *

Little Wastes on the Farm.—It is frequently said that if a business man in the city were to run his business with as little care as the farmer, he would become bankrupt within a year.

On most farms can be seen ground lying useless in large yards, drives, and occupied by old fences, which, if sown to some soiling crop, or used as a garden, would easily become the most productive spot on the farm. In other places may be seen acres of fertile land once used as an orchard, but now occupied by only a few scattered stumps, and grown over with weeds and briars, making a harbor for all pests that are noxious upon a farm.

Another expense that is directly felt, is the building and keeping in repair of fences. Many of these fences are entirely useless and a source of expense, directly and indirectly, through the ground occupied.

If a farmer only had some easy, reliable way of measuring his loss in that dirty brown water, slowly seeping from under his manure pile and running into the ditch, he would measure but once, and then begin to plan some way of carrying that fertility to his fields, instead of having it lost in the waters of our rivers and seas.

Another source of waste is the attempts of many farmers to raise crops on ground remaining wet and cold until late in the spring, and even if a crop is started, little is to be expected and less grown. How much easier it would be if that field was thoroughly tiled, even though it had to be done with borrowed money. One or two crops would easily pay the cost of the work; more fertility would be available, more thorough tillage could be practiced, and farming would be a delight instead of a drag.

But the greatest loss of all is that coming from or through the machinery of the farm. In a day's drive through some communities, a thousand dollars' worth of machinery, buggies, wagons, binders, mowers, etc., may be seen standing in the open, enduring the rain, the snow and the sun, dying a quick death from rust and decay. Such machinery is never at its best, and must soon be replaced. Such are only a few of the leaks on a farm, but those any man with a little gumption can stop.—L. A. Breckler, in Rural World.

Many dairymen possessing common cows get discouraged because they say they cannot compete successfully with more fortunate farmers owning blooded herds. To such let me say the remedy for improvement lies in your own hands. If you think you cannot spare the money to purchase a blooded bull, attempt to secure the services of one this season for at least a portion of your herd. Select only your best milch animals to be the mothers of your future grades, and you will soon have a herd of the latter of which no dairyman need be ashamed.

In order that a cow may give the greatest quantity of the richest milk it is necessary that she should be subjected to gentle treatment, never be hounded by dogs, never struck with sticks, never even be roughly spoken to, but petted and made much of as far as possible.

Just to be good, to keep life pure from degrading elements, to make it constantly helpful in little ways to those who are touched by it, to keep one's spirit always sweet and avoid all manner of petty anger and irritability—that is an idea as noble as it is difficult.—Edward Howard Griggs.

VALUABLE INFORMATION.

While in the office of the Horticultural Commission of Los Angeles county, we noticed some very valuable work on the part of Secretary Jeffrey, in preparing a topical index of annual Year Books of the Department of Agriculture, of which this commission has recently received a nearly complete set, dating from the time of the first appearance of these books under the Patent office management in 1847. The vast fund of information in such a large number of books is liable to be entirely lost unless it be arranged as being done by Mr. Jeffrey. It will mean a great amount of work and will take a long time to complete it, but in the end the commission will have a most valuable asset and aid in the prosecution of any inquiry which may come before it.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The apricot crop at the Novato Land Company's ranch is said to be very large this season. The peach crop is quite abundant and was sold last week for fifty dollars per ton.—Petaluma Courier.

It is claimed the Pajaro valley apple crop this year will total 3000 car loads and figured at $500 a car for all varieties. Such a crop will be worth $1,500,000. Packing houses will be kept busy during the season. An immense amount of work in "thinning" the crop to produce large sizes is in order.

Lindsay has at present seven large packing houses, several of which will be enlarged and improved and probably two more will be built before the opening of the orange shipping season. It is expected the various houses will be able to handle about forty cars a day.

The cannery at Dixon is putting up about 750 cases of apricots daily and employs fifty men and one hundred and fifty girls. Fruit is brought from the region about Dixon and also Vacaville, Suisun, Santa Clara and Placerville. The cannery has a capacity of 1000 cans per day when run at full limit.

In a bulletin recently published by the agricultural department of the University of California, the "resin compound is found partially effective on the San Jose scale and immensely successful on the brown apricot scale. The old "lime-sulphur-salt" wash was found the most effective remedy for the San Jose scale but of little use for the brown apricot scale. Experiments were conducted in the neighborhood of Hanford.

The Fresno Nursery Company of Fresno, incorporated December 1, 1894, has re-incorporated with a complete change of directors and stockholders. The new board of directors and stockholders are as follows: F. H. Wilson, president, 250 shares, $25,000; Thos Jacobs, Visalia, vice-president, 100 shares, $10,000; Morpney Jacobs, Visalia, 100 sares, $10,000; Chas. A. Chambers, secretary, 49 shares, $4900; W. A. Conn, attorney, one share, $100, making a total capital stock of $50,000, fully paid up.

W. C. Talbot of Porterville, horticultural commissioner from that district, who was here this morning, states that orange trees are still being set out in that section. About three more cars are to be planted on the El Mirador tract, formerly the Lewis Creek ranch, six miles east of Lindsay, about twelve cars having already been set out. The cars average about 700 trees to the car. The trees are irrigated well immediately after planting. Over ninety per cent of the trees are navels, the remainder being Valencias.—Tulare Register.

California's deciduous fruit shipments promises to total far beyond any other year. Prune growers are happy as there is a phenomenal sale of product in fresh state. The largest increase is on prunes and plums. Up to July first there had been shipped 270 car loads of apricots as against 94 car loads last year; 263 car loads of peaches contrasted with 85 car loads last year; 430 car loads of prunes and plums, as against 73 last season. As the season is nearly three weeks earlier this year than last, these figures are slightly misleading.

Wells Fargo's office is busy now packing and shipping Prunus Simoni and Tragedy prunes. They send them to their agents at different points between here and the Mississippi river, to be sold to the best advantage. F. E. Bearss, the agent, buys the fruit himself and does the packing. Returns from ten boxes of Prunus Simoni, containing twenty-five pounds in a box, netted him, Tuesday, after all expressage and expenses were paid, $9.90 for the ten boxes. Mr. Bearss pays one cent a pound, so it has to sell at $2.25 per box at least to insure him these returns.—Porterville Enterprise.

AGRICULTURE.

E. E. Pearsall has planted a thousand acres of Kaffir corn southwest of Brawley.

Hops are more backward this summer than ever before, being only about half the usual height on the poles.

The cantaloupe crop at Brawley has been a success the present season and plans are laid for the building of a cooling plant for next season.

G. W. Leek, writing to the Santa Rosa Republican, after an extensive trip through the Santa Clara country, strongly advises the Sonoma county fruit growers to hold their prunes for a three or three and half cent price.

A farmer near Silsbee, in the Imperial country, has been experimenting with corn for some time past, planting in February and a second planting in August. He has had fine roasting ears in June and December.

The board of supervisors of Amador county has passed a stringent ordinance looking to the eradication of the Canadian thistle, making it a misdemeanor for any land owner to allow the thistle to mature and disseminate seed on this land.

Over four hundred acres of valuable grain was destroyed by fire between Stockton and Lodi one day last week, as was miles of fences. Many fine residences were in danger and at one time a group of fire fighters were almost surrounded by the flames.

Sterling Peterson, a hop grower of Sonoma county, has contracted his hop crop for three years beginning with the present crop at 15 cents, next year at 14 cents, and the year following at 13 cents per pound. Hops are now quoted at 24 cents.

Our regular representative, writing from Kingsburg, says the country is in good shape, the farmers busy with the apricot crop, which is large and fruit of fine quality. The syrup company has it building at Kingsburg well under way and expects to begin work by the time the grape crop comes in. Grape syrup and unfermented grape juice will be the specialty. Crops around Fowler look well and orchards are in fine shape.

Last Friday night the second solid trainload of canteloupes was sent forward from our desert garden. Six cars from Coachella, four from Thermal and two from Brawley. The first solid train went east on Wednesday Before this time, Wells, Fargo & Co.'s express had carried car lots to the number of eighteen, besides smaller shipments. Verily, our old-time terror, the Colorado desert, is fast becoming the most fertile and earliest garden spot in America.—Redlands Citrograph.

LIVE STOCK.

Finley, Lake county, farmers are interested in securing a cheese factory for that place.

The usual dividend of five per cent has been declared by the United Milk company of San Francisco.

A creamery at Hayfork, Trinity county, which has been idle for several years, is now in operation.

The Taylorville creamery in Plumas county, which was started about a year ago, reports a very satisfactory business.

A carload of thoroughbred race horses purchased by Harry Stover at the Haggin sale at Sheepshead Bay, New York, arrived at Petaluma last week.

The Lockeford Creamery Co. leased its plant to the Crystal Cream and Butter Co of Sacramento last week. Patrons will probably receive a better price, as they nave been forced to throw their surplus upon the San Francisco market at whatever price the commission houses would pay. The new company commenced business the first of July.

MISCELLANEOUS.

The electric line between Lemon Cove and Exeter, has been completed.

Coachella's ice factory is turning out twenty tons a day for icing cars and refrigerating melons.

N. A. Clifford, of Santa Ana, has purchased 1700 acres of the E. O. Miller ranch, near Visalia, the consideration being $35.000.

Visalia's new beet sugar factory will be in process of construction within the next thirty days, the machinery loaded into nineteen cars having been shipped from Rome, New York, the 21st of last month. The plant will be considerably larger than first projected and will be capable of crushing a larger quantity if beets.

Owing to the cool weather prevailing so late in the season aplarists around Santa Ana now regard it as quite certain there will be a short honey crop this year. Early in the season it was thought there would be as high as 600 tons, but the estimate is now cut down to 400 and possibly 300 tons.

Around Santa Rosa hops are growing nicely, but the weather has not been warm enough as yet to kill the lice which, as usual, are prevalent in some fields. Some growers are using the soap spray, which seems to be the popular remedy, and probably more will do so if the pest increases and spreads to cause general damage.

A well 342 feet deep has been put down on a hundred acre orange tract near Success. Tulare county, and a pump and 20-horse gas engine installed. While the tract is nearly all under ditch there are two months of the year that the ditch runs dry and water must be had or the land is worthless for citrus fruit growing.

J. W. Barbour states that he and his partner, H. Clawson, will harvest between 50,000 and 100,000 sacks of grain on their Lake lands this year and on the lands they have rented While the rust has materially reduced the crop of wheat from what it would have made, the barley sown has yielded heavily and the grain crop is a paying one. He says that if, for the coming ten years, he could be assured of as good returns as he and his partner will realize from their grain harvest this year, he would be well satisfied.—Hanford Journal.

The California Western railroad and Navigation company has been incorporated for the purpose of constructing a railroad in Mendocino county, with a terminus at Fort Bragg on the ocean shore. The road is to connect with the Union Lumber company's railway and is to have a length of sixty-five miles. The capital stock is fixed at $1,000,000. The list of directors is Duncan McNee, Miles W. McIntosh, Charles H. Weller, H. M. Cochran and Max Goldberg.

Our represetntative writing from Santa Rosa under date of June 3, says: "Today marks an epoch in Santa Rosa electric lines, as cars on the Petaluma & Santa Rosa line, for the first time run down the main street and a fine appearance they made. Previously cars had stopped at the depot soon after entering the city limits. Hopes are entertained that the road will eventually be extended from Petaluma to San Francisco, thus giving excellent service to and from the city for Santa Rosa.

The present weather is greatly beneficial to the hop vines which have come up this year, and prospects are brightening for the coming crop. At the present time it is estimated that the 1905 crop will be about as large as that of last year, 19,000 bales. This figure may be increased slightly, as Sonoma hops generally turn out better just at the last of the season than they promise during the season. A conservative estimate of the amount of hops now being held by growers in Sonoma county is fourteen hundred bales.—Healdsburg Enterprise.

A Cultivator representative writing from Santa Rosa, Sonoma county, says the fruit crop is a little short this year. "No cherries nor pears with prunes far below an average crop. Dairy people, however, have had a good winter, abundant rains making fine pasture which is only beginning to dry up. No other feed is necessary for the dairy herd during the wet season since the first of January. One subscriber mentioned he fed nothing the whole five months and the third month from calving jotted down the butter figures from one Jersey cow for twenty-two days which added forty-two pounds. Hops will not be a large crop. Many 'hills' are missing, though with warm weather from now on what come up will do well and the product will be a good quality. If like conditions are general prices should be satisfactory."

C. H. SESSIONS, ASSOCIATE EDITOR

REPORT OF THE DAIRY BUREAU.

The fifth annual report of the State Dairy Bureau is just from the press of the State Printer, and covers the past two years' work of the Bureau. It refers to the prosperity that has been experienced by those engaged in various branches of dairying as the result of exceptionally good prices which have come to them for the products of the cows. Also, for the impetus this prosperity has given to the expansion of the industry, which is bringing dairying to the front as one of the leading industries of the State. This, the Bureau says, is giving California rank as one of the important dairy States of the Union. The report refers to the fact that for several years prior to '95 there was a vast quantity of oleomargarine sold in the State, but this has now been almost entirely discontinued by the heavy tax placed upon it when colored and by the fact that people will not buy the stuff uncolored.

Since the national law has come into effect, a few years since, the butter production of California has almost doubled in quantity and prices have been profitable as a rule in all markets.

Regarding the growth of the 'margarine production the book gives a table showing the number of pounds produced each year in the United States since '87. In this it appears that from 21,000,000 pounds which were produced in '87, it has increased to 126,000,000 pounds in 1902. In 1903 this was nearly cut in two and in 1904 again amply reduced so that the total of the United States production was last year about 48,000,000 pounds.

Reference is also made to the enforcement of the law relating to the sale of "renovated" or process butter. This class of butter, as its name indicates, is usually made from butter unfit for consumption, on account of its age or from other influences that have destroyed its palatability. By melting this butter and by various processes of eliminating the products of fermentation, and churning the melted oil in milk, an article is produced that is pure and temporarily free from objectionable rancid flavors, but if exposed to ordinary temperature it almost immediately loses its good quality. This temporary sweetness enabled makers and dealers in the past to conceal the true character of the article, and much of it was sold for the superior grades of butter, to the injury of producers of fine butter, and at the same time a market was created, through the renovating business, for large amounts of butter that was improperly made, or allowed to become unmerchantable from age."

The laws against this stuff have been passed in nearly all States and the one in this State is being rigidly enforced against sale of such renovated butter.

A table is given showing the output of the various dairy products from the counties of the State. This shows the total of creamery butter for the year of 1903 of 24,591,271 pounds. Of dairy butter, of a little more than 10,000,000 pounds. For the year of 1904, 26,433,060 pounds of creamery butter were produced and a total of 9,000,000 pounds of dairy butter. This showed an increase of about 2,000,000 pounds of creamery, and a shrinkage of nearly 1,000,000 of dairy butter. The banner county in production of creamery butter is Humboldt which produced last year 3,771,135 pounds while of dairy butter it produced only 22,560, or a total of 3,793,695 pounds. On the other hand, Marin county produced 1,493,733 of creamery butter, in the same period, but 2,319,504 of dairy butter. This makes her total 3,813,237, or slightly more than the total of Humboldt county. Doubtless the income of Humboldt county would be materially greater than that of Marin from the fact that creamery commands a higher price in the market than does the dairy.

The next county on the list, and one between the two above mentioned, is Sonoma, which last year produced a total of 2,421,680 pounds. The county producing the smallest amount in the State, next of course, to San Francisco which produces practically none, is Shasta, with a total of 5,820 pounds.

It can be noted that the greatest increase in butter production is largely in the lower San Joaquin and Sacramento counties. For instance, San Joaquin, which in 1903 produced 963,151 pounds, last year produced 1,015,568. Stanislaus county, which in 1903 produced 1,159,561, last year produced 1,564,749. Sacramento county produced in 1903 1,341,867 and in 1904 1,508,293 pounds. Merced forged ahead from 905,622 in 1903, to almost double at 1,563,771. Shasta, which we spoke of above as being the smallest producer in the State, shrunk almost three-fourths in its total production. Los Angeles county shows a shrinkage from 1,996,438 to 1,630,069. This case, however, is explanable by the fact that Los Angeles city is increasing in its demands so continuously for fresh milk and cream that creamery production will continue to decline. Fresno county shows an increase from 1,393,158 to 1,619,746.

"The remarkable but steady growth of the State's butter production, as shown by the figures, is one of the conspicuous features of California's industrial life. It goes to show that her citizens are awakening to the fact which they have heretofore been slow to recognize, that almost every county in the State has areas adapted to dairy farming not excelled by any part of the world, while in the counties located in the Sacramento and San Joaquin valleys only the application of irrigating water is required to make almost the entire area one alfalfa meadow for eight or ten months of the year. Not only are Californians learning to appreciate the possibilities of the dairy business, but during the past few years these possibliities have attracted many settlers from other States, and what were formerly large grain growing areas are now numerous small dairy farms."

"A feature which is still retarding a still more rapid development of dairying is the difficulty of securing competent labor to work on dairies. This drawback, however, has had one desirable effect, in that it checks a tendency on the part of our citizens to conduct dairy enterprises on an extensive scale with large numbers of cows; while on the other hand, by maintaining prices which might not be possible if such extensive dairy enterprises were readily practicable, there has been much to encourage the dairyman operating on a small scale and doing the work himself assisted by his family. It is this that has brought about a very desirable tendency, in many parts of the State where dairying is becoming conspicuous, of converting large holdings of land into numerous small farms, whose owners are invariably very prosperous."

"In the two years covered by this report a large amount of butter has been shipped into California from the East. Only figures for the year ending June 30, 1904, have been obtainable, and these may possibly not include all that arrived, as they account only for full carload shipments. They show 3,340,000 pounds, or almost ten per cent of what our State produces."

The total cheese production of the State shows a shrinkage in the two years. 1903 the output was 7,218,639 pounds while last year it was 6,133,898 pounds. In this respect there is difference between the butter and cheese production largely in favor of the butter which has been increased so satisfactorily.

The average price in the City of San Francisco for the year 1903 was 27.8 cents per pound, and in 1904 23.3.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON

884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY AND WITH THE DE LAVAL SEPARATORS

we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.

DE LAVAL DAIRY SUPPLY CO.

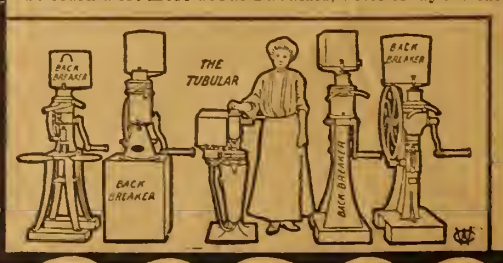
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

When writing advertisers mention Cultivator.

TUBULAR--or "Back Breaker?"

When you see the waist low Tubular you can't be driven into buying a back-breaking, "bucket bowl" separator. **Can and crank are just the right height on the Tubular.** Here is the largest Dairy Tubular along side four "back breakers." The girl with her hand on the Tubular is 5 feet, 4 inches tall. This is an exact reproduction from a photograph. **Which kind for you?** Makers of "back breakers" try to get their cans low by setting the cranks low. **High cans** break your back backward—**low cranks** break it forward. Unless you are a double jointed giant, you'll find a high can is no joke. To show you how high these "back breaker" cans really are, when the machines are set high enough to turn easily, we raised these "back breakers" 'til their crank axles were level with the Tubular crank axle. "Back breaker" makers don't like this picture—**it's too true.** They try to squirm out of it. **You wouldn't like turning cranks as low as "back breaker" makers put them.**

The low can is only one of many advantages Dairy Tubulars have over all others. Dairy Tubular bowls are simple--"back breakers" are complicated. Tubulars are self-oiling--no oil holes to fill up. "Back breakers" are oil drippers and oil wasters. To learn a lot more about Tubulars, write today for catalog N-260



The Sharples Separator Company
West Chester, Pa.
Chicago, Ill.
Toronto, Can.

Raise 1200 to 1300-lb mares for the farm and 1500 to 1800-lb horses for sale.

How many cows are you feeding for the sake of their company? If you don't know, it will pay well to find out.

The first thing to find out in the dairy business is which cows are worth keeping and which are not.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

J. A. Campbell C. W. Campbell

La Palma Stock Farm

We now have some of the very finest registered Poland China pigs of both sexes for sale. Also a few registered Jersey cattle, either sex.

BUENA PARK, CAL.
When writing advertisers mention Cultivator.

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS

BREEDER OF

REGISTERED JERSEY CATTLE

Jerseys with a record as milk and butter producers

Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

Marigold's Exile King

NO. 63232

Heads **VENADERA HERD** of Jerseys

His dam gave in two years 19,717 lbs. of milk, making by monthly tests 1232 lbs. of butter. We are offering his son from the great cow,

NETTIE UNDERWOOD.

She gave, last year, 9055 lbs. of milk, testing 586 lbs. of butter. She is now on official yearly test. Her son is a great calf. For particulars of this and other calves write

GUY H. MILLER RIVERSIDE, CAL.

A GREAT HERD.

The Cultivator has often spoken in its columns of the work of the Riverside Premier Herd of Holsteins. Also during the last few months of the fact that W. C. Hunt, formerly of Liverpool, New York, had become manager of the ranch. It has been plain that since Mr. Hunt has taken charge of the herds of the Messrs. Pierce, new life is being installed into the management and that Mr. Hunt is no novice in the work which he has taken up.

Regarding his work at Liverpool, where he owned and placed on a magnificent footing the Village Farm Herd, we quote from a writer in a recent issue of the Holstein-Friesian Register:

"During the past year we have had frequent occasions to go through Mr. Hunt's stables, and have thus had opportunity to become somewhat familiar with the different animals; but not until we took the time to consider each separately and to look more particularly into records and breeding did we realize fully what a wonderful work Mr. Hunt has been accomplishing in the development of his herd. Today the visitor to Village Farm sees that uniformity of type and the general high standard of excellence which are supposed to be manifest only in the long established herd, representing in its development the best efforts of a life time.

How Mr. Hunt has been able to concentrate the work of a life time into a few short years, is a question not readily answered; but those who are familiar with his ability in feeding and caring for stock, his skill in selecting, his attention to details and his untiring industry and remarkable capacity for work, can understand to some extent why he has been thus successful.

The herd has attained its present high standing not as a result of what money can do in brining good cattle together, though Mr. Hunt has been a liberal buyer, but is representative rather of judicious selection, correct management and careful forethought. Mr. Hunt has repeatedly demonstrated his own skill, and the superiority of his cattle, by the wonderful official tests that have made the name of Village Farm Herd famous, and the herd can now present an array of records in some classes that no other in the world can approach. We have referred to the fact that the herd is more than a mere collection of high-class cattle. Its members conform to a uniform standard, not only in type, but in breeding.

We feel that Mr. Hunt's departure from our midst is a distinct loss to Holstein interests in the East, and we believe our fellow breeders will join us in wishing him continued prosperity and success in his new career."

* * *

We recently wrote Mr. Hunt at Stockton regarding the qualifications of the Holstein cow for the ordinary dairy farmer in California and asked him to say as good a word for his favorite breed as he had for our readers, and we are pleased, indeed, to give room for the reply, as follows:

Editor Cultivator: Replying to your kind favor requesting a few words from me relative to the qualifications of the Holstein-Friesian cow for the ordinary dairy farmer of California, I will say that in my judgment that too much cannot be said in her favor for this purpose. In the first place she carries probably the greatest amount of vitality, rugged and healthy constitution, together with larger size, than any other breed of dairy cows in the world. Naturally then, of course, the Holstein calf maintains the same rugged constitution from the start, making rapid growth and development on cheap feeds where others of the smaller breeds and weaker constitutions require milk from the cow for several months. I believe that it is now the recognized fact that the Holstein cow can produce a pound of butter at less actual cost to the average farmer and dairyman than any other cow in the world, and she can certainly produce 100 pounds of milk with a still greater balance in her favor.

Probably no dairy cow in the world can find any section of any country so nearly like her native heath as California is to the Holstein. The main difference between the conditions for dairying in California as compared with those of Holland and Friesland are that we have more sunshine here and the winters are much more mild, which certainly should be to the advantage of any breed of dairy cattle.

Besides the above advantages mentioned, there is another that should not be lost sight of and that is that this breed of dairy cows are able to and will consume more coarse fodders, such as are grown on the average California ranch to better advantage and with greater net returns than can be obtained in any other way. For instance, to illustrate this: Here on the Riverside Ranch for the three months of April, May and June, we have averaged 140 cows in milk of pure-bred Holsteins, and on grass alone, with one acre of rye grass pasture to each cow, they have averaged over 2700 pounds of milk each, or over 900 pounds of milk each per cow per month, and this on grass alone, and in my judgment these results could be obtained with no other cow than the Holstein. With good alfalfa hay to feed when the pastures begin to get short, this same large production can be kept up for the greater part of the entire year, and it is one of the greatest desires of the Pierce Land and Stock Co., not only to make this herd of Holsteins at Riverside Ranch a source of financial profit to themselves, but to show every dairyman on the Pacific Coast that there is money in milk when an abundance of coarse fodder is supplied to the Holstein cow.—Pierce Land & Stock Co., W. C. Hunt, manager.

DISEASES OF SHEEP.

Many years ago the only disease sheep were known to have was foot rot. Later scab developed, and it was thought to have been the result of neglect.

All old diseases have been met half way with good remedies found for them. Some of the later disorders of sheep have not yielded so readily to treatment.

The diseases which have been found most troublesome and stubborn are those occasioned by parasites. Of course there are several different species.

Scab is also caused by a parasite, but it is external rather than the most dangerous, which are internal. The later are: Stomach worms, lung worms, intestinal worms, tape worms and nodular worms.

For tape worm, oil of male fern seems to be the favorite remedy, a teaspoonful being a dose. Two teaspoonfuls of powdered areca nut is also a good remedy.

A solution of 1 per cent coal tar is also a good worm remedy given in doses of two to four ounces.

A FINE ADVERTISEMENT.

A handsome picture of a foothill orange grove at Porterville, occupies the front page of the June 9th issue of the California Cultivator. The Cultivator claims a circulation of over 14,000 papers, and is widely read, and is entitled to the thanks of this county for so fine an advertisement. It will no doubt be the means of bringing many homeseekers to this section.—Porterville Enterprise.

The Cultivator is glad indeed to call attention to agricultural and horticultural accomplishments of various parts of the State and it appreciates the appreciation of the section referred to. One point worthy of correction are the figures given. The right figures are right, only misplaced. Instead of 14,000 the Cultivator has 10,400 but proposes to pass the figure which our courteous contemporary credits us with.

Watch us grow.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA
When writing advertisers mention Cultivator.

Holsteins For Sale

From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.

MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD

DAIRY SHORTHORN BULLS FOR SALE

Admiral Dewey 183493 and King Edward 184393 at head of herd. Address

Fred Fuller & Bro. Imperial, Calif.
When writing advertisers mention Cultivator.

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now

AGAINST

ANTHRAX

AND

BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory
322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

When writing advertisers mention Cultivator.

MILCH GOATS.

Dr. J. H. Hester, of Santa Barbara, was a caller at the Cultivator office this week and informs us that he has ordered a bunch of the Nubian goats from Mr. F. S. Peer of Ithaca, New York. Mr. Peer is a noted stock importer and is now in Europe making selections of certain dairy animals and goats, and it is on him that Dr. Hester is depending to make selection of some heavy milkers of this strain of milch goats. The Nubian is a native of upper Egypt, but for many years has been bred in England and in Holland and is proving a magnificent animal. As the Cultivator has remarked before, we believe there is a great future for this industry and that the man who enters into it now and introduces thoroughbred stock will be in line to reap a harvest when the merits of this stock become better known.

CATTLE QUARANTINE.

Editor Cultivator:—Will you please inform me if there is a quarantine against shipping cows from Orange and Los Angeles counties to San Joaquin valley? If so, when will it be raised, and what will be the requirements.—E. C. N., Santa Ana.

Yes, there is such a quarantine, and as to when it will be raised and the privilege of free shipment from points south of the line permitted to other sections of the State or other States depends upon the counties within the quarantines. If the supervisors would make rigid ordinances as to stamping out the disease from the counties and see that the ordinances are enforced, the authorities of the Department of Agriculture may be inclined to remove this quarantine entirely. But while the condition prevails which has for the past few years, so long will the quarantine prevail. The line has for several years been crowded farther and farther south until now in the coast counties it is coming close to Los Angeles county while inland it bends north even beyond the city of Fresno. The counties in question have eradicated the Texas fever tick by dipping and careful culling of diseased cattle until they have conquered this dread of the stockmen. Disinfection once done, and thoroughly done, inspection by agents of the department is made and the quarantine is raised. From the condition of things in the counties inquired about, we assume it will be several years before it will be raised.

BILL NYE'S COW.

Bill Nye, the humorist, once had a cow to sell, says the Philadelphia Ledger, and advertised her as follows:

"Owing to my ill health, I will sell at my residence, in township 10, range 18, according to the government's survey, one plush raspberry cow, aged eight years. She is of undoubted courage and gives milk frequently. To a man who does not fear death in any form she would be a great boon. She is very much attached to her present home with a stay chain, but she will be sold to anyone who will agree to treat her right. She is one-fourth short-horn and three-fourths hyena. I will also throw in a double barrel shotgun, which goes with her. In May she usually goes away for a week or two and returns with a tall, red calf with wobbly legs. Her name is Rose. I would rather sell her to a non-resident."

MILK DIET.

The strippings taken immediately after milking is the most valuable thing known to build up a person who is thin or upon the verge of breaking down.

It should be followed up regularly twice a day.

It is especially valuable to persons who have a tendency to lung affections.

It can be taken and assimilated in this way fresh from the cow when cold milk cannot be taken at all.

Buttermilk is very beneficial in many kinds of stomach troubles and is healthful for everyone.

The best wool and the best mutton are obtained from sheep that has been kept growing all its life.

Sheep restore to the soil a larger proportion of the elements than they take from it in grazing than do any other stock.

It is said that soil upon which they graze affects the quality of the wool. Clay soil produces the best, sandy soil the second best, and lime soil the most inferior.

Sheep are very much like other animals; if they are to be good sized, tender and thrifty, they need to have a good chance while young, so that they may grow rapidly.

The best way to clean a clover pasture where the young sprouts are becoming troublesome is to turn in the sheep. If you happen not to have a flock, buy them, but buy good ones.

While sheep will get more sustenance from poor land and at the same time do the land more good than any other stock we may possess, it must not be forgotten that they will also repay liberal feeding.

AN APPRECIATIVE LETTER.

Editor Cultivator: Your article, "Hoven in Cattle," put in at our request, was very much appreciated and we write thanking you for taking up the subject so thoroughly. We think those directions clear enough to be followed by anyone, and, if the occasion requires, we feel that we know what to do, and can do it with a confidence that we could not have had before.

So, thanking you for helping us on this important subject, and no doubt helping many other readers of the Cultivator, we remain, yours truly,

JOHN STUBBLEFIELD,
FRANCIS I. PAGE.

A little extra time spent in preparing butter for market is time saved, not lost. Bear in mind that you are building a reputation that will cause your butter to be sold readily at all times.

DAIRY COWS FOR JAPAN.

K. M. Koyu, and his secretary, W. Iijima, two Japanese gentlmen, were in Ottawa a few days ago conferring with Dairy Commissioner Ruddick in connection with their visit to Canada to purchase about forty dairy cows for experimental purposes on Mr. Koyu's dairy farm in the land of the Mikado, and wishes to give Canadian cattle a trial. In his search for suitable animals, Mr. Koyu has been aided greatly by Mr. Ruddick, who says that the foreigner has an excellent idea of what constitutes a good dairy cow. Ayrshires and Jerseys are being purchased principally.—Farmers' Advocate.

Speak well of a man before his death and thus give him a chance to return the compliment.

INCUBATION ON SHARES.

Editor Cultivator.—I am incubating eggs for a neighbor on shares. Please state in the next issue of the Cultivator what is an equitable division of chickens. How long should I feed and care for them before dividing?—M. J. G., University.

The answer to that question depends on several things. Are the eggs valuable, that is are they from high bred birds which will give a fair percentage of prize winners at a show? Or are they ordinary well bred stock, or are they the barnyard fowls? Assuming the eggs to be from ordinary stock, without any great value to the eggs, if you should keep the chickens for one week after incubation, two-thirds of the chickens hatched should go to the one furnishing the eggs and one-third retained by the incubator.

Like a beautiful flower, full of color but without perfume, are the fine but fruitless words of him who does not act accordingly.—Buddha.

Aiken and Coe, of the Bamboo Poultry ranch ,at Glendale, telephone the information that the mammoth incubator recently spoken of at some length in the columns of this paper as being under construction, is now in operation and is proving a complete success. The temperature is easily maintained and Mrs. Aiken informs us that, excepting to turn the eggs, it would not be necessary to visit the incubator more than every two or three days. The 'phone number of the ranch is Home 701.

With money you can move the gods; without it you can't move a man.

.. Summer Hatching ..

Pays us—it may interest you if you if you are not overstocked. An August hatched cockerel from these yards sold for $15 this spring. Eggs after July 1, $1 for 15, $5 per 100, including the eggs from our prize winning birds.

Lake Avenue Poultry Yards, Pasadena, Cal.

When writing advertisers mention Cultivator.

AUCTION

45 Cows and Horses

Thursday, July 13, 10 a.m.

I will sell on my ranch, one-fourth mile South of GRAHAM STATION on Long Beach Electric line 1¼ miles north of Watts. 25 fine milk cows Durham, Jersey, Holstein. All fine large milkers and test high, in fine condition, all fresh or will be soon. This is as fine a herd of dairy cows as can be found in the country, and buyers looking for good cows will do well to attend sale

10 head good heifers, one and two years old, 8 head good horses, consisting of 2 large draft horses, team mares, team geldings.

Farm Implements, wagons and harness.

Everything must be sold without limit or reserve as I am quitting the dairy business and will subdivide my ranch.

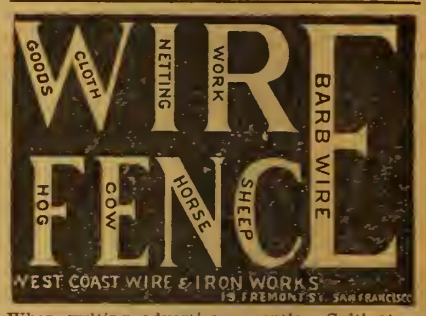
Terms: Six months time with approved note. Free Lunch at noon.

J W. KENT, Owner

Rhoades, Reed & Rhoades, Auct'rs.

Office 730 South Spring St.

When writing advertisers mention Cultivator.



When writing advertisers mention Cultivator.

IT BALES JUST AS WE SAY OR WE'LL GIVE IT AWAY

22 TONS IN 10 HOURS

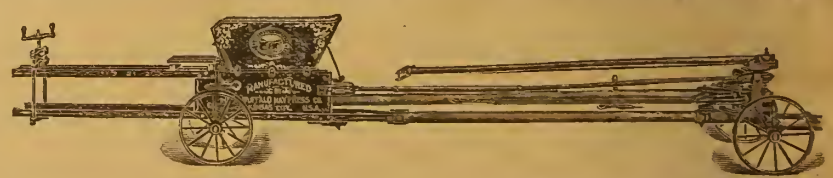
Spencer's Alligator Hay Presses

are money makers. Strong, swift, durable, economical; capacity guaranteed greater than any others made. Three styles. All claims proven or no sale. Write for free catalogue and test plan.

J. A. Spencer
Dwight, Ill.

When writing advertisers mention Cultivator.

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA



THE BUFFALO

Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.

We manufacture *BUCK RAKES*, Stackers, Gang Plows, etc. Write or see us before buying.

We Have a Good Assortment of Second-Hand Presses on Hand Now

L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

"Cheapest" doesn't always mean the lowest priced, certainly does not when applied to cream separators. Numerous makes of separators nowadays are offered for less than the famous and improved

U. S. Cream Separators

Which hold World's Record for Close Skimming.

A very short use of those cheap "job-lot" machines proves it costs so much to keep them "going" during their short life that they're not "cheap"—even as a gift—(not to mention their poor results) Time has conclusively proven that U. S. Separators

ARE LEAST EXPENSIVE

because the cost to maintain them is so small in comparison with their long and unequalled service.

Fond Du Lac, Wis., September 15, 1904.

"*To whom it may concern:*—I have used one of your U. S. Separators for the past twelve years and it has given the very best satisfaction. I have paid 75 cents for extras since getting the machine. I cannot recommend the U. S. too highly.—J. BALSON."

Our handsome Dairy Separator catalogue tells all about the splendid construction that makes possible such testimony as this. Get it now, it's free, and you'll find it interesting, we know.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

408 Prompt Deliveries, from 18 Distributing Warehouses throughout United States and Canada

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt.

When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

DANGER SIGNALS.

Danger signals are already beginning to fly and we are only as far as as the "Glorious Fourth!" I am already getting sad letters from poultry breeders, especially from turkey raisers, telling of the dread disease, "Roup." It is early in the season for roup, and I am very sorry to say it is an indication that we are threatened with a long and very disastrous epidemic of that much dreaded disease. The thing to do is to follow the example of the wonderful little Japanese and "prearrange" to defeat the enemy. How is that to be done? What are the first indications of roup? And what causes it? Oh! how can we escape from it?

I remember reading long ago "there are three causes of roup: Firstly lice, secondly lice, thirdly lice." I would add a fourth to that and say and fourthly anything that gives a cold such as a draught through a crack or knot hole, or the fowls sleeping where the night breeze will blow under their feathers or chill them.

I propose to consider today the first, second and third causes, especially as I have a letter from one of our readers containing a large louse and asking me what it is.

It is a louse, my friend, one of the many kinds; I do not know its given name, but it is one of the slower moving members of that interesting and most troublesome family.

It a big family; there are too many for me to name or even describe them in general. Gray, blue, yellow, black, red (mites). Lice that run like lightning, others that bury their heads and stay still (on the chick's head), others that are lazy and saunter round the feathers in a leisurely manner. These lay their eggs on the outer edge of the fluffy feathers. Some feed on the feathers and some on the blood of their unfortunate host. Some will even leave the fowls and visit their unlucky owners. They are all pernicious parasites, and if we want to fight our enemy roup we must exterminate them. We must take no chances; we must remember that this is a lovely climate for lice and all external parasites and must lend our energies to get rid of them, and to keep rid of them.

Cleanliness is of course the first requisite. The lice and especially the troublesome hen flea and other parasites breed in dirt and droppings. The flea is found in neglected henneries on sandy soil. Dirty nests, cracks, dust and dark corners are their favorite breeding places. They produce irritation of the skin and in young birds the growth may be permanently stunted. Very young chickens may be killed by them.

For treating flea bites, bathe the bites in vinegar and water, or lemon juice and apply carbolated vaseline. To free poultry houses and yards of fleas, use white wash freely, adding a pint of crude carbolic acid to every twelve gallons of whitewash. Spray it or slop it thoroughly into all the corners and cracks. Use tobacco dust and moth balls in the nests. Dark, dusty places in the poultry yard afford favorable breeding places for fleas. These places should be soaked with hot soapsuds and boiling salt water to kill the young fleas.

* * *

Lice.—There are nine varities of body lice affecting poultry. Each variety has some favorite part of the fowl's body which is its camping ground in preference to other parts, and it seldom tresspasses on the neighboring claims. There are, however, two varieties which are wandering lice and may be found on all parts of the fowl. These lice not only travel from fowl to fowl on the roosts at night, but frequently leave the fowls to attach themselves to persons handling them and even to the walls of the hen house. Lice spread rapidly, one infested bird being capable of spreading the vermin through a large flock. In young fowls they cause dumpishness, drooping wings, indifference to food, and may stunt or even kill the chicks.

One of the best means of preventing lice is a dust bath. This bath should be a wallow of freshly turned earth, mellow and slightly damp, out of doors under a tree in the summer, or in a box eight or ten inches deep in the hennery in rainy weather. Provided with a good dust bath, healthy hens will almost keep themselves clean from lice. Not so the cockerels; they are careless about their toilets, or afraid of taking sufficient dust baths and must be frequently examined and, if necessary, dusted.

* * *

If fowls are badly infested with lice they should be well dusted with a good lice powder, of which there are a number on the market.

Two good powders can be made as follows: To one peck of sifted coal ashes add one half ounce of 90 per cent carbolic acid; when thoroughly mixed add an equal bulk of tobacco dust. Or, take half a peck of sifted road dust, four fluid ounces of any good lice killer; mix thoroughly and add an equal amount of tobacco dust.

The roosts may be painted with liquid lice killer and the fowl placed in a box, the floor of which has been painted with lice killer and the top covered with burlap, care being taken not to smother the fowl. The nits or eggs hatch about every five days, so for badly infested fowls, feathers having nits upon them should all be pulled out, and the treatment should be repeated until all the young lice are exterminated.

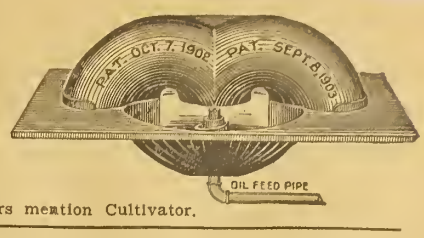
An excellent plan in warm summer weather, just at the commencement of the moult, for getting rid of lice, is to immerse the fowls in a diluted kerosene emulsion, wetting them thoroughly to the skin. Bear in mind three things:

First, the dipping must be done on a warm, bright sunny morning, when the thermometer is not lower than 80 degrees in the shade. Second, the water should not be over blood heat.

POULTRYMAN WANTED

To care for place for six weeks while owner is in the east selecting new breeding stock. Apply at once. Lake Ave Poultry Yards, 757 N. Lake Ave. Pasadena

Sievert Oil Burners



Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

When writing advertisers mention Cultivator.

FLYO-CURO

Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL

The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS

—AND—

BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angales, 505 South Main Street

San Francisco Office and Salesroom, 33 Market St.

When writing advertisers mention Cultivator.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food

ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

Third, and most important, every solitary feather must be made soaking wet, else you will not make a clean job of it. In dipping all fowls having heavy plumage, like the Brahma and Cochin, the feathers must be raised with the hand and the water allowed to thoroughly wet the bird to the skin; this takes from one to two minutes for large, well feathered fowls. If a dry feather is left, there will be lice on it. Do not dip the head under, but dip all up to the eyes and if the fowl will not hold still use a small sponge and wet the top of the head. No one who has fowls troubled with lice need fear to try this, it is very effective.

A SNAP—CHICKENS

Flock of Thoroughbred S. C. W. Leghorn Hens. Chance for choice stock at lowest prices. Call or write.

E. A BOST, 514 W. Crow Ave., Pomona, Cal.

When writing advertisers mention Cultivator.

BLUE ANDALUSIANS Eggs $2.50 per 15

MRS. T. R. GRIFFITH, 3111 WALTON AVE., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop

Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**

Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.

When writing advertisers mention Cultivator.

White Leghorn Chicks, 7½c

Reduced price after June 1st. These chicks are bred from superior, thoroughbred, vigorous stock. Excellent all the year layers of large white eggs.

White Plymouth Rock Chicks, 12½c

Hatching done, 3½ cents per egg.

WM. A. GREEN, Phone 191, Box 401, ANAHEIM, CAL.

When writing advertisers mention Cultivator.

WILLARD POULTRY FARM

MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.

Indian Runner Ducks Our Specialty

Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.

When writing advertisers mention Cultivator.

Dean's Pacific

Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.

WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Hatching Chicks

Eggs hatched for the trade in the largest adobe incubator in the world

BAMBOO RANCH

Phone Glendale 701 Alken & Coe, Props. Glendale, Cal.

When writing advertisers mention Cultivator.

JACOB KREGER

Breeder of

White Leghorns

Eggs in Season

ANAHEIM, CAL.

When writing advertisers mention Cultivator.

NATURAL HEN

Incubators and Brooders

Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16 page circular free

F. S. LOW & CO., PETALUMA, CAL.

Manufacturing Agents for Pacific Coast States

When writing advertisers mention Cultivator.

ALBERS' BLACK MINORCAS

Still Lead

—Circular Free—

GEO. R. ALBERS

4849 MARMION WAY LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

BARRED ROCKS

EXCLUSIVELY

Send for 16-page 1905 Catalogue

H. R. CAMPBELL

Box O PETALUMA, CAL.

When writing advertisers mention Cultivator.

Emulsion.—The emulsion for the dip is made as follows: In one gallon of boiling water, dissolve one bar of laundry soap, or one pound of soap powder. When the soap is thoroughly dissolved, take it from the fire and add one gallon of kerosene, and one pint of crude carbolic acid. Churn, or stir vigorously until cold. Take one quart of this and add to it ten quarts of warm water. This is the same emulsion that I use for spraying the henneries, and it is death to mites.

* * *

EDITOR'S QUESTION BOX.

Cannibalism—(New Beginner): What can I do to prevent young chicks from picking each other's toes and roots of tails. The habit commenced when four or five weeks old. I feed Midland No. 2, a little wheat and chopped cabbage with a little blood meal. Have only taken the Cultivator a few months and find it a great help.

Answer.—Keep your chicks busier. They get into mischief (just like humans) if they have not enough to do. Feed them a little finely chopped meat and lots, lots of lettuce or other succulent green food. At this time of year chickens crave something juicy and if you do not supply it they will take each other's toes. Let their principal food be grains fed in chaff or straw or alfalfa hay; give them something to scratch in and something to scratch for. Feed liberally.

* * *

Indian Runners.—(H. E. J.) Have read your article in the Cultivator on Indian Runner ducks and bought a sitting from Mrs. Hungerford which all hatched; also some from a neighbor; now have 53. Seven have black bills, others white. The white bills are the noisiest. Would you be so kind as to tell me which is which, and what you think of this plan of raising ducks? I have a fourteen-acre ranch, walnuts, oranges and alfalfa. My plan is to fill a 230-egg machine the first of the month and a second machine the 15th, put the 200 (or less) ducklings in three broods for two weeks until the second machine hatches, then run them into their larger pens and fill No. 1 machine again. Will keep machines going continuously. At the end of eight weeks will sell first lot of 200 (or less)—a continuous performance, selling at the end of eight weeks. I believe I can make them weigh five to six pounds by that time. By the market report each week I see that the price ran from ten to fifteen cents on an average last year. My ducks should be laying by September if they are not all drakes. I cannot afford a large plant, so by this plan I can turn off a large number of ducks in a year. If the price stays up, I should think I could make good wages at 400 ducks a month. I prefer to raise ducks to chickens as they can be kept out of mischief much easier.

Answer.—In reply to your letter the first indication of the sex of ducks is in the voice, the female having a louder voice than the male. The male only makes a sound like a coarse whistle. The bills of the Indian Runner females are darker than those of the males. The young males are usually larger than the females of the same age.

You are right about the Indian Runner ducks being easier to raise than chickens, for they never have roup or lice, which are our two great plagues in the chicken business. As to your plan, it looks good on paper, but I

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

When writing advertisers mention Cultivator.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at 1903 Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.

SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 **Los Angeles, Cal.**

RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

When writing advertisers mention Cultivator.

WARNING!!

THE JUBILEE INCUBATOR CO.

now of Oakland, California beg to announce the removal of their factory and business to SUNNYVALE, SANTA CLARA COUNTY, CALIF., 40 miles south from San Francisco, where a large plant is being constructed.

The Jubilee will possess the finest works and most splendid facilities to be found in the West, and also ample room for further expansion.

This move is of the utmost importance to every Poultryman on this Coast. "The Why and the Wherefore" is fully explained in the **JUBILEE ANNOUNCEMENT.** If you have one chicken or 5,000 you should have that Announcement.

You are no doubt curious to know **why** we moved to **Sunnyvale,** and where **you** will be benefited, Get the **Announcement.** We mail it free. Now get it,—we promise you it will be interesting.

TAKE NOTICE. On and after Aug. 1st our address will be

SUNNYVALE Santa Clara County **CALIFORNIA**

Until then, the same as for many years:

JUBILEE INCUBATOR CO.

Jubilee Incubators and Brooders, Poultry Supplies

515, 517, 519 32d St. Wholesale and Retail OAKLAND, CAL.

fear would not pan out quite as good as it looks. For one thing, the ducks do not lay during September and October, and their eggs are not very fertile until February. We can only hatch with certainty for not over six months or from January to July inclusive. You will have seen by my account of the experiments with the ducks at the Government Experiment Station in New York that they need and must have more animal food than chickens; also plenty of green food. If you are so situated that you can supply them with these you can always be sure of a market for ducks. I have often thought that residents at or near Redondo or some of the beaches where plenty of fish could be had very cheaply might do very well with Indian Runners. Your plan of hatching every two weeks might do all right for six months but for the other six months you would have to do something else.

GROWING CHICKS.

Much has been written on growing chicks. Probably many on almost the same lines with but different wording. Some beginners have been able to grasp the writer's meaning—others have not. There is only one right way. By attending to the many small things that many think unimportant. We have seen experienced poultry raisers feeding well, housing well, and yet neglecting watering—in our mind one of the most important of all. From the beginning the baby chick should have clean fresh water before it at all times. They drink many times during the day, the first thing in the morning and the last at night. As soon as possible get the chicks on the ground that they may obtain natural green food which they crave. Feed fine cracked grain, wheat, oats, millet, barley the first eight weeks, with good meat scraps every day after they are ten to fifteen days old. Use judgment in the feeding of meat, as the excessive use of it sometimes causes weak legged chicks. At eight weeks the chicks are ready for a mash once a day, using bran, shorts, a little corn meal, the meat scraps being fed in the mash three to four times a week. Cooked potatoes, etc., are good if used now and then for a change. We do not believe in heavy corn feeding to growing stock unless forcing for broilers or market. Neither do we believe in having meat scraps before the chicks all the time, for when they are hungry one can see them going for the scraps in the hopper to take the place of grain they should eat. Keep them a little hungry at all times. This induces them to keep active in search of food, making them exercise, which is essential to promote strong growth. Even on a good free range they do not get bugs or worms enough, and the meat should be fed as stated above. Never neglect the grit and charcoal. While nice chicks have been raised without it, it is better to be on the safe side and have it before them at all times. See that they are supplied with shade. The growing chicks need shade as well as sunshine. Do not keep above fifty in one house, and if possible give them all the run they desire. We have grown June-hatched chicks that made good winter layers and proved valuable birds in the breeding yards. But the beginner seldom has the same success, for the reason that during the five or six months they have a check—sometimes two or three. Chicks once checked can never regain what they have lost, be it either through poor feed, chilling, crowding, overfeeding, etc. We do not believe in forcing maturity. But with a steady, healthy growth fowls will prove earlier layers, more steady and longer lived as to egg production. Separate the male birds as soon as possible that the pullets may have the range or yards to themselves. Keep them contented. A happy contented chick is a growing one. Keep the house clean. It need not be cleaned every day. Use judgment in the management of your fowls. If brooder chicks you will not be troubled with lice if every precaution has been used. If hen raised use one quart of kerosene to one ounce of carbolic acid for the little red louse. This is also a good disinfectant. Purchase good, clean feed. It pays in the end. At the end of the fifth month the fowls can be yarded in their permanent home, that they may become accustomed to their new home. In clean, comfortable houses, fed with good, clean feed, the fowls are happy and contented and prove profitable. Attend to the many small details. The small ones count, and poultry raising will prove a source of income never realized by those who give their fowls indifferent care.—Inland.

LIMING EGGS FOR HOME USE.

The Cultivator has frequently given formulas for putting up eggs in solution of water glass as doubtless the very best preservative for eggs ever devised. However, the old lime pickle is still somewhat used, and the formula for its mixture may be desired so we quote as follows as given by a writer in the Orange Judd Farmer:

Take one pint lime, half pint salt. 1½ tablespoonfuls cream of tartar, and mix well in a porcelain lined kettle. Pour two gallons of boiling water over this and stir well until dissolved. When cool put in a stone jar (will not keep in wood) in a cool place in basement of cellar. Have the eggs perfectly fresh and clean. Wash them if soiled. Put in clean, cool water when taken from the nest, and then into the brine.

Large jars are best. I usually put 30 dozen eggs into this brine in July and August, and use them through the winter until June for bread, cake, etc. The only difference from a fresh egg is that when you break the egg the white is thinner and has a little odor of lime.

The last few words show that this pickle is, to a certain extent, objectionable, and we think the water glass solution will have the greater number of users.

BUMBLEFOOT.

Bumblefoot is a common disorder where roosts are placed too high. Hens are often hurt in the foot and germs get in the wound which cause the bumblefoot. It is difficult to cure, the fowls usually not being worth the trouble to treat them. The treatment consists in making an incision in the foot where the swelling appears to be, placing the fowl on clean straw, washing with warm water containing carbolic acid, after which nitrate of silver should be applied.

Any one will do well to invest in a barrel of lime, keeping a goodly supply on hand at all times. In the first place slake enough to make half a barrel or more of whitewash of the consistency of very thick cream. This is to be thinned when used on the coops or in the houses. Keep this on hand. It improves with age and will be found exceedingly useful. Nothing brightens up the premises more than good whitewash. Then there will be found in air slaked lime one of the best disinfectants. Scattered in the hen houses under the roosts, it will destroy foul odors and disease breeding germs, and is an excellent article to sprinkle on low, damp places during the rainy season. Once used, lime will be found indispensable. It may not be worth its weight in gold, but it helps win the shekels for which all poultrymen are striving.—Petaluma Journal.

Most eminent men's conviction is, that there is no sounder or surer way of increasing business than serving one's present customers faithfully; this done, they are sure to say so to their friends.

Indian Runner Ducks
The great layers. Hardy ranch-raised stock. Eggs, 75c per 13, $4.50 per 100.
Mrs. Frank Morse, R. D. 4, Santa Ana, Cal.
When writing advertisers mention Cultivator.

Pure Bred Black Minorca Hens For Sale
Also some young birds of same breed. Inquire of D. M. HATHORN, COMPTON, CAL.
When writing advertisers mention Cultivator.

BLUE ANDALUSIANS Eggs, $1.50 for 15
MRS. J. S. DUFF, 3145 S. Hoover St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

White Plymouth Rocks
EXCLUSIVELY

Do you want eggs from fine large, healthy farm-raised white beauties that are great layers, bred for utility and fancy points. Eggs, $1.50 per 15, or $6.00 per 100. Call and see my stock. If I cannot please you I don't want your money
Garey Ave., 1½ Miles South of Salt Lake Depot
WHITE PLYMOUTH ROCK POULTRY RANCH
J. T. Davis, Prop., Pomona, Cal.
When writing advertisers mention Cultivator.

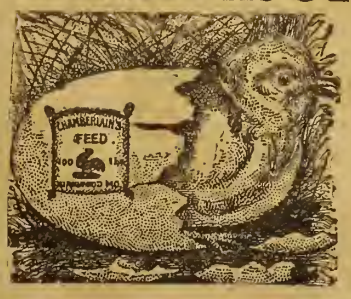
THREE GREAT POULTRY NECESSITIES

PRUSSIAN POULTRY FOOD
The Great Egg Producer
Keeps Hens healthy. Helps them lay. Prevents and cures Cholera, Roup, Gapes, etc., as nothing else will. Makes bright red combs. Makes your chicks grow. Costs only One Cent a feed for 30 chickens. Mix it in the feed.
Saved His Chicks
My young chickens were dying. I had lost four dozen, when I bought a package Prussian Poultry Food, and gave it to the remaining ones in their feed. It saved them. I keep it on hand ever since.—C. R. RIGGIN, Latah, Wash.
It is a good egg producer and cheap to use.
Packages 25c and 50c. 25 lb. pail, 10,000 feeds, $3.50.

PRUSSIAN LICE KILLER
Kills Lice and Mites on Poultry
A liquid. You paint the perches and drop boards, or use with Sprayer. Lice and Mites can't exist where Prussian Lice Killer is used. It's the Best, Strongest and Cheapest, Goes further, lasts longer than any other. Hens can't feed lice and feed you.
Can't Get Along Without It
I am using the Prussian Lice Killer and could not possibly get along without it. It is the only thing I have ever used which will keep my poultry house and chickens from lice and mites. I have used other makes, but Prussian is the best. — FRED. FIESEL, Wilmington, Cal.
Prices, ½ gal, 50c. 1 gal., $1.00. 5 gal., $4.00

PRUSSIAN LICE POWDER
You Dust It Into the Feathers
Holding the chicken by the legs with the body hanging down, so the powder will get into the feathers and onto the skin where it will reach all the lice and mites. The
Prussian Lice Powder
does the work effectually.
Dust Setting Hens
with the Powder; also dust it into the nest when you set the hen; also dust the nest every ten days. The chicks will hatch free from
Lice and Mites
Vermin drives setting hens from the nests.
Packages 25c and 50c.

Ask your local dealer for "PRUSSIAN" POULTRY FOOD, LICE KILLER and LICE POWDER. Don't take substitutes; insist on the PRUSSIAN. Ask for our free Poultry Book.
PRUSSIAN STOCK FOOD AND REMEDY CO., ST. PAUL, MINN.
Germain Seed Co. AGENTS AND JOBBERS FOR SO. CAL. 326-30 S. MAIN ST. Los Angeles

Chamberlain's Perfect Chick Feed


World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

IS DEEP CULTIVATION AN INJURY TO AN ORCHARD.

(Continued from First Page.)

are thrifty, strong growing trees, bearing a good grade of fruit, while those which were receiving a surface treatment, and never plowing, are producing fruit which averages of a lower grade. Besides that, at the time the deep plowing was made, or rather, the summer season following, those same trees carried, safe and easy, six weeks on a rather coarse, sandy loam between irrigations, while other trees across the street, on fully as good soil, which had only the surface treatment would never carry above three weeks and even then showed heavy wilt between irrigations.

* * *

Uniform Supply of Moisture.—Of course, the moisture question is a great factor in this deep culture. The roots, prevented from feeding upon the warmer and richer surface soil, then seek the lower levels where the stored moisture from winter's rains is more uniform than can possibly be the condition in the surface soil which is subject to the immediate changes of temperature, dry winds, etc. We do not believe the lost fertility in the surface soil owing to this cutting of the roots can be a material factor in the condition of the tree. That is, if air, aiding nitrogen-forming bacteria to work upon the soil elements and in decomposing the minerals of the soil, accomplishes its result, the roots, despite any cutting off, will again seek those upper layers and utilize all of those elements, or, despite that, the percolating irrigating water would soon carry the fertility to the lower levels .

That this deep soil contains a more uniform supply of moisture, goes without saying. Of course, during a period of dry years it may be true that deep in the earth there is a drying out or loss of moisture which gives a dryer condition far below the surface than that of the surface with a reasonable degree of irrigation. But with proper care such conditions should not prevail and there should always be deep in the soil an abundant supply. Such being the case, roots induced to seek those levels and standing in this perpetual moisture are vastly better able to support the tree in trying times than are the surface feeders.

* * *

Utilize the Stored Fertility.—But, outside the moisture question is the other question of getting from the soil all the elements possible to support the tree. The study of commercial fertilizers and the theory of increasing the fertility of the surface soil is fascinating, but the settlement of bills where margins are ordinarily close are sometimes a reason for embarrassment. Therefore, with tons of the necessary elements in every acre of the soil, it behooves us to use every effort possible to induce the tree to use these native soil elements rather than to introduce them at considerable expense. That the surface soil contains more proportoinate fertility than the lower levels goes without saying but, at the same time, that the rootlets induced to grow in the lower levels secure much nourishment for the tree is well known.

One result of the deep rooting of the tree, thereby securing more uniform moisture conditions and more general utilization of the soil elements, will be, we believe, as it has been where thoroughly tried, a much more uniform and higher grade of fruit than has been the case in the shallower cultivation. It looks to reason that the regular and continuous growth and good condition of the tree will produce less puffy oranges, fruit of better texture and generally a much better product than will the intermittent tree which is every three or four weeks given a half sufficient irrigation.

The weather and crop conditions for the week ending July 3 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—Generally clear weather prevailed throughout the State during the week, with light fogs in the coast districts, and the temperature was somewhat below normal until Sunday. Higher temperatures prevailed in all sections at the close of the week.

Grain harvesting and threshing are progressing rapidly in all parts of the State and hay baling continues. The wheat crop is far below early estimates and is of poor quality in some sections ,but as a whole the yield is quite fair. Barley is yielding very good crop in nearly all sections, but oats are light. The hay crop is the best for several years in all parts of the State. Sugar beet harvest is in progress in Sonoma and Santa Barbara counties and the yield is considerably above average. Hops and beans are making fair progress and will be greatly benefited by the warmer weather; the present outlook is for about average crops. Corn, potatoes and vegetables are in good condition. Feed is drying, but is still plentiful and of good quality, and stock are doing well.

Fruit picking, drying, canning and shipping are in progress, and in many places the yields are better than expected a few weeks ago. The pear crop is much larger than estimated, and apricots, peaches and plums are very good. Prunes appear to be light in all sections, but may improve with favorable conditions. Apples give indications of a large yield. Grapes are advancing satisfactorily and there will be a very large crop. Citrus fruits and olives are doing well.

* * *

Eureka Summary.—Grain in some places is considerably damaged by aphis, but the crop is generally above average. Hay harvest is progressing; the crop is unusually heavy. High winds caused apples to drop; the yield will be a little below average.

* * *

Los Angeles Summary.—Hay stacking and baling are in progress on a crop ranging from light to extra good. Oats good to heavy; some rust. Oranges dropping somewhat. Walnuts backward but promising.

O. M. Morris is now on his way East where he expects to visit seed houses in the interest of a new seed house which he expects to open in Los Angeles during the coming fall. Mr. Morris has been connected with the seed business for some time and understands its various features, and he announces that he will have a thoroughly up-to-date seed house on the Coast

Hay put up in bales holds its sweetness and original juices much longer than when thrown loose into the barn loft. The farmer who feeds a large number of cattle or horses should own a baler; or hire a traveling outfit to put up his hay. Some hay presses are quite popular in districts when they have been used and proven rapid, accurate and economical. In a large number of sections East and West, the Alligator, Perpetual and Hercules Presses, made by J. A. Spencer, Dwight, Illinois, have become deservedly well known and popular.

THE JUBILEE ANNOUNCEMENT.

Californians interested in the poultry industry are more or less acquainted with the Jubilee Incubator Co., of Oakland, and their products. A few years ago the Jubilee incubators were made by dozens. Today they are made by hundreds and within a year they will be made by thousands and shipped to all parts of the world.

The new works will be located at Sunnyvale, Santa Clara county, where the company owns a tract along the line of the Southern Pacific which provided a frontage on the company's own switch of 780 feet. They will occupy their new quarters by August 1.

Another important department has been added—the poultry supply department. The company has decided to immediately establish the largest and best poultry supply house west of the Rocky Mountains, and will soon be manufacturing a full line of poultry foods and rations which will bear the Jubilee brand, a mark of quality and full value. The company has issued an announcement explaining in full their plans and it will be mailed to any address as requested. It is interesting and of genuine value. It will be sent, postpaid, to any address by writing to the Jubilee Incubator Co., Oakland, California.

IRRIGATION IN THE SACRAMENTO VALLEY.

The reclamation service has hopes of one of the greatest irrigation plans in the world for Sacramento valley. Hundreds of thousands of acres will be benefited. In a recent letter Mr. J. B. Lippincott, supervising engineer for California, said that the matter has attracted the attention of his department since 1895, daily records of the flow of the Sacramento river at Red Bluff have been kept, and the conclusion reached that the plan the government now has in mind to divert the waters of the river at Iron Canyon, four miles above Red Bluff, to reclaim, irrigate, and furnish electrical power for the Sacramento valley is the most important project now under consideration by the government.

Mr. Lippincott has directed his engineers to survey and map that section and says: "I believe the Sacramento valley offers the greatest undeveloped opportunity in arid America, and I also believe that the problem involved in the reclamation is one of the most intricate and extensive that we have to deal with. I believe it can be solved, and I hope the reclamation service will materially aid in its solution."

Field parties will soon be sent out to investigate reservoir sites in connection with the proposed dam.

Marry young. An old man's kiss is a poor excuse; it's just like apple sauce with too much juice.

Fresh doughnuts, mince pie and a man with a poor stomach is a combination that should not combine.

IN WOMAN'S BREAST

ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.

Best book on cancers ever printed, sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.
Please Send to Some One with Cancer

ORPHANS RECEIVED.

The following children have been received in the Boys' and Girls' Aid Society Home since last published notice:

1. Ray James, half orphan, age 12, eyes grey, hair brown. 2. Lillie Hastings, half orphan, age 11, eyes blue, hair brown. 3. Helden Hastings, half orphan, age 7, eyes blue, hair brown. 4. Mary Hewitt, orphan, age 9, eyes blue, hair brown. 5. Wm. Mendoza, half orphan, age 6, eyes black, hair black. 6. Josie Rivera half orphan, eyes black, hair black, age 6. 7. Rena Huddleston, half orphan, age 7, eyes blue, hair brown. 8. Sena Huddleston, half orphan, age 7, blonde. 9. John Huddleston, half orphan, age 11, eyes hazel, hair brown. 10. James Gibbs, half orphan, age 9, eyes blue, hair brown. 11. Cecil Gibbs, half orphan, age 9, eyes blue, hair brown. 12. Winifred Nichols, half orphan, age 6, eyes blue, hair brown. 13. Max Nichols, half orphan, age 5, eyes blue, hair brown. 14. Chester McCawley, half orphan, age 9, eyes brown, hair brown. 15. Stella Watts, half orphan, age 8, eyes grey, hair brown. 16. Edward O'Leary, half orphan, age 2, eyes blue, hair brown. 17. Myrl O'Leary, age 4, half orphan, eyes blue, hair brown. 18. Walter Fowler, half orphan, grey eyes, light hair, age 8. 19. Edna Hulbert, orphan, age 10, hazel eyes, brown hair. 20. Marjorie Duff, half orphan, age 9, eyes blue, hair light brown. 21. Harold Duff, half orphan, age 9, eyes blue, hair brown. 22. Maggie Clements, orphan, age 6, colored. 23. Lucy Clements, orphan, age 9, colored. 24. Howard Clements, orphan, age 13, colored. 25. Carmilita Taliberti, orphan, age 11, eyes black, hair black. 26. John Taliberti, orphan, age 7, eyes black, hair black. 27. Louis Taliberti, orphan, age 10, eyes black, hair black.

MRS. E. A. CHRISTIAN, Supt.

To Portland

$40.00 ROUND TRIP

VIA

SALT LAKE ROUTE

Through Salt Lake City and Ogden, along the beautiful Columbia River to Portland.

Tickets on sale every Friday, June 9th October 6th, inclusive. Limit 21 days. Stopovers allowed at all points on return trip within final limit.

Information and literature gladly furnished at City Office, 250 South Spring Street, Los Angeles. Both Phones 352, or Salt Lake depot, East First Street Home 490. Sunset 4095.

E. W. GILLETT, Gen. Pas. Agt.
T. C. PECK, Asst. Gen. Pas. Agt.
Los Angeles, Cal.

Queries and Suggestions

PERCHERONS.

Editor Cultivator: Will you tell me if there are any registered Percheron draft mares for sale on the coast?—H. C. J., Carpenteria.

There are some of the finset bred Percehrons on the coast. Francis I. Hodgkins, Stockton, California, will be able to supply information as to some of his fine stock. An article regarding his ranch and some of his stock, with illustrations of some of the premium winners appeared in this paper in the issue of May 26.

* * *

RHUBARB SEED.

Editor Cultivator: Can you tell me where to get Burbank's Crimson Winter rhubarb seed?—H. F. R., Hemet.

We do not know whether Mr. F. L. Hogue, of Carpenteria, still has a supply of the seed, but he recently advertised in the Cultivator that he would furnish at $1 per packet of 1000 seeds, which is sufficient to plant nearly half an acre.

* * *

MOVABLE FENCE.

Editor Cultivator: Will you kindly put me in the way of getting an idea of the best method of making movable hurdles or fence, to be used in keeping live stock, principally hogs, apart while grazing? Wish something to be inexpensive and at the same time effective. Would like information to be as explicit as possible.—Recent Arrival, Hollister.

Will any reader of the Cultivator who has information regarding the construction of cheap, movable fence favor our Hollister inquirer by writing to the Cultivator such information as they may have, giving explicit details, as far as possible, of construction? So far as we have heard, movable panel, made from wire mesh fencing, or the wire mesh stretched across field and staked occasionally, are the only suggestions which we have heard along this line.

* * *

SALT BUSH FOR POULTRY.

Editor Cultivator: I am anxious to get information regarding the Australian Salt Bush and its desirability as a poultry feed. What is best method of propagation? Does it grow quickly?—Recent Arrival, Hollister.

Of the salt bushes there are a vast number of different varieties, but the one usually referred to as the Australian Salt Bush and the one which has proved the most satisfactory as green food for poultry is the Australian salt bush, or Atriplex semibaccata. A native salt bush, Atriplex Brewerii, is spoken of in the gardening department by Mr. Braunton in this issue of the Cultivator. This has been given but little attention, however, and it is probable the securing of seed would be harder than that of the Australian salt bush, which is so common that all dealers can supply you with seed. Although spoken of as a "bush" it forms under favorable conditions for its development, large quantities of quite succulent forage which is readily eaten by either horses, cattle or sheep. It is much less woody than the common "sages."

It is a perennial and therefore does not require reseeding, except at long intervals, when it is pastured heavily it may run out. The seed may be sown at almost any season when there is sufficient moisture in the soil to germinate and maintain the seed until it secures a thorough foothold from the soil. This plant will stand a great deal of drought and also will grow and do well on soil of alkaline per cent enough to prevent any other plant securing a foothold. In fact, it has been said that no other forage plant so sturdily withstands black alkali. We have heard of cases where a plant has been planted in not very large quantity and allowed to arrive at good size before poultry was turned into the corral and within a very few days they had eaten it down to a mere stub. This proves the liking which poultry has for the plant.

One pound of seed will plant an acre, so that it is a most economical seed. Its habit of growth is very rapid, providing sufficient moisture be present. The value of the salt bush will be better appreciated when it is remembered that in the selection of foods the chief nutrients to be considered are the protein compounds or nitrogenous ingredients. They are indispensable to the healthy and vigorous growth of the animal body, for animals which have been deprived of all nitrogenous materials die in a very short time. That the salt bushes range high in these most important ingredients may be seen by the fact that it contains 2 3-4 per cent of protein, while alfalfa, which is especially high, has 4.91 per cent.

* * *

BUDDING ROSES.

Editor Cultivator:—Will you kindly inform me how to bud roses? I have an old copy of the Cultivator giving instructions how to bud trees. Will the same system answer?—J. M. B., Dos Palos.

The treatment is practically the same as to bud an orange tree, being sure to get a good bud from the desired scion and have the bush in healthy growing condition. The manner of cutting the bud and making the incision would be identically the same as for budding the orange tree.

* * *

HUMBOLDT COUNTY LANDS.

A subscriber in the San Joaquin valley recently requested information regarding lands and agricultural conditions in the coast counties north of San Francisco. We have written to George A. Kellogg, secretary of the Humboldt Chamber of Commerce, with offices at Eureka, and he replies as follows: There is considerable government land left in Humboldt county, but most of it is unfit for pre-emption. All of the best land was taken up long ago, and I could not advise any one to come here expecting to take up valuable land.

Improved lands, suitable for general farming purposes run in value from $50 to $300 per acre, according to quality and situation.

"Stump land" can be had in limited amounts for $5 to $25 per acre. Much of this is very good land, but it requires a great deal of work to put it in shape for growing crops.

More explicit information regarding the Humboldt section with illustrations and printed matter may be had by addressing Mr. Kellogg at Eureka. One point from pamphlet in question we note "Humboldt has the banner record for the production of oats and corn according to United States census reports. At the Chicago World's Fair wheat grown in the hills of Humboldt took first prize and showed the record yield per acre of 60 to 100 bushels." Of course, the great future of that country is dairying, of which it is the banner county of the State.

* * *

FERTILIZER FOR POTATOES.

Editor Cultivator: Will you please inform me if it will do to put fertilizer on the hills or rows of potatoes when planting? M. J. B., Hemet.

We do not think as a rule that fertilizer is applied to the hill when planting though we have heard of excellent results from using unleached wood ashes in the hills. It supplied the immediate potash necessary and was also found to be excellent in preventing the scab and the attacks by worms. But, by referring to the Cultivator of May 19th, you will note that Mr. Lobingier, who has had wide experience in California, recommends the use of nitrate of soda after the potatoes are well up; 100 pounds of nitrate per acre and fifteen or twenty days later, another 100 pounds.

Another authority recommends for Irish potatoes a complete fertilizer mixed in proportion of 500 pounds nitrate of soda, 300 pounds muriate potash and 1200 pounds superphosphate. Certain it is, the application of nitrate of soda to potato ground has given most beneficial results. The use of stable manure unless thoroughly rotted on potatoes has been condemned.

YOU CAN KEEP FREE FROM

ANTS

USE KELLOGG'S ANT PASTE

At All Dealers
or Write the Manufactory,

KELLOGGS ANT PASTE CO.

Phone Main 6705 1010 E. 9th St., Los Angeles

Agents and Dealers Wanted

When writing advertisers mention Cultivator.

FOR SALE AT A BARGAIN

Eighty rods west of Ceres, Cal., and 100 rods from Ceres Creamery, convenient to church and school, 20 acres of choicest fruit and alfalfa land, 6 acres to alfalfa, 4 acres ready to seed, 5½ acres checked and partly leveled, barn with two living rooms attached, a well with best of water, 8 tons alfalfa, 2 tons wheat hay, a span of good young mules, harness and wagon, a McCormick mower and rake, plow, cultivator, Fresno scraper, and many other tools, fence posts and wire, 2 high grade Jersey cows, 1 pure bred Jersey cow, 1 heifer calf, 75 Buff Orpington chickens, 2 pigs 100 lbs. each, all for $4,000.

F. M. GRAY - CERES, CAL.

ROYAL FRUIT PITTER

FIRST YEAR ON MARKET

Remarkable for simplicity, speed and accuracy of work.

To reliable parties we will ship one or more of these machines upon receipt of $25,00 cash, for each one ordered. If after one day's thorough trial machines should prove unsatisfactory, return immediately to us in good condition and said advance money will be refunded. If it is desired to retain machine forward $75.00 additional (total $100) for each machine. If it is desired to rent the machines for this season only, send us $10.00 additional (total $35.00) for each one rented. Parties ordering machines on trial must state whether they expect to buy or rent, as we will only have a limited number to rent. All who can are urged to call and see our machines in operation.

ROYAL FRUIT PITTER CO.

210 Franklin St. - Los Angeles, Cal

When writing advertisers mention Cultivator.

Apple Land For Sale

Elevation, 2500 ft.; Acres, 800; Price, $17,000

None better in all California. Foothill land, part level, part rolling. Soil, deep disintegrated granite. Water, abundance can be developed. Address

Manzanita Ranch Co., Owners

215 American National Bank Building, Los Angeles, Cal

When writing advertisers mention Cultivator.

Lime Your Lands

LIME, $2 PER TON

MANURE, 45c PER TON

Time to buy. For particulars write

H. B. MATTHEWS, Riverside, Cal.

The Green-Marshall Co.

Manufacturers
and Wholesale and Retail Dealers in

Paints, Oils, Varnishes and Painter's Supplies

So. Cali. Agents for Berry Bros. Varnishes

550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

When writing advertisers mention Cultivator.

BURBANK'S

Crimson Winter Rhubarb

OUR SPECIALTY

$1.50 per dozen, $7.50 per 100, $50 per 1000

WAGNER'S NURSERY

PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

When writing advertisers mention Cultivator.

Blue Gums

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity

Geo. B. Warner, Santa Ana, Cal.

When writing advertisers mention Cultivator.

FOR SALE

1 Stearns Spray Outfit, gasoline engine and pump, tank, wagon, etc., good as new, cost $350.

1 Riverside Lemon Washer, large tank, runways, etc. Practically new, except brushes. Cost $200. We used above engine to run it.

2000 to 3000 trays and packing boxes.

Must sell. Going to sell ground and buildings.

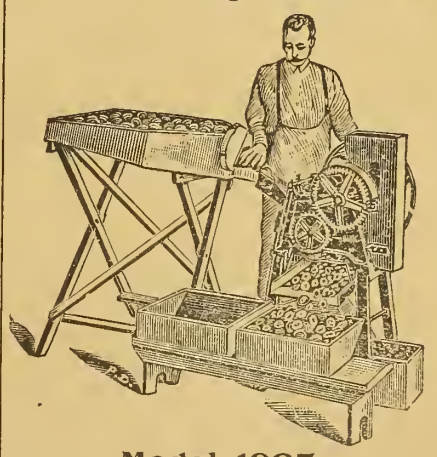
If you write, then see

Chas. H. Thornberg, Long Beach, Cal.

no trouble about terms and price. Must act quick.

When writing advertisers mention Cultivator.

The "Briggs" New Improved Fruit Pitting Machine



Model 1905

It is no experiment. Has been in use fourteen years, and improved from year to year. We guarantee it, and if you are not satisfied with it after two days' trial, it will cost you nothing. The machine will save at least eighty dollars per week.

The fruit is cut entirely arouud, and pitted more carefully than by hand, and the dried fruit sells equally as well. It can handle

Two Tons of Peaches, or
One Ton of Apricots per Hour

Rental, in advance, for the fruit season, $40. with privilege of purchasing for an additional $75 at the end of the fruit season.

Write for circulars, containing full particulars, recommendations, etc.

BRIGGS-KNIGHT MFG. CO.

336 East Second Street, Los Angeles, Cal.

When writing advertisers mention Cultivator.

THE WOODBOX.

Settin' here tonight, I'm thinkin'
Of a home I ust to know;
Sort o' starts my heart a-sinkin',
That old scene of long ago,
In a kitchen I'm a-lookin',
In a farmhouse in a grove,
Past old mother there a-cookin',
Is the woodbox 'hind the stove.

Recollect it, don't you, mister?
You can see it same as me,
'Member how yer hands would blister
Now and then? And splinters, gee!'
See the chips and bark its holding?
Not a single stick of wood,
Hear old mother at you scoldin',
Tellin' you to fill it good.

Use to seem that box, you 'member,
Hardly gave you time to play,
Kep' you mad clean from September
Till warm weather came in May;
Seemed as though 'twould kill you, stil it
Didn't, now I'll tel you true;
Fer the chance I'd gladly fill it;
Yes, you bet, and you would too.
—Bide Dudley in Kansas City Star.

Sarah's Swains

Written for the Cultivator.

"Dear me!" exclaimed Sarah Miller, looking from the pantry window down the road at the tall lank figure coming towards the house. "If that ain't Bill Hawkins coming to see me, an' it's Friday evening, too."

She rattled the milk-pans around at a great rate, getting ready for Saturday's churning. She went to the opposite window to hang up her dish-cloth in the cool air when she happened to catch sight of another figure coming from the opposite direction.

"O, my!" she murmured, "an' there's Jim Daily—both coming to see me. There'll be some fun when they meet, I'll bet," and she laughed to herself.

Coming around the house to the front door, Bill Hawkins newly greased boots came to a sudden stop, and their owner stared dumb-founded at Jim Daily's plump figure just emerging from behind the rose-tree at the corner.

"Seems to me ye've made a mistake," Jim growled, nervously fingering his flaming necktie.

"Been makin' mistakes yerself, strikes me," answered Bill pulling at his torturing collar.

"Looky here, Jim," he said after a pause, "I've come on important business, an' you jest pull out, now, and come back again in about half an hour."

"If there's any pullin' out, you'll do it," said Mr. Daily, "I don't fix up an' come to see Sarah for nothin', either."

"Wal; then let's draw cuts who stays," suggested Mr. Hawkins.

"You draw, nuthin,'" answered Mr. Daily, "you jest git out o' this," and he took a step forward. At this Mr. Hawkins dexterously shed his coat. "You've been tryin' to cut me out fer a long time an' I—"

His words were cut short by the onrush of Mr. Daily, and the two crashed through the rose-bush and danced over the pansy-bed in front of the house. But this state of affairs was stopped as suddenly as it had begun.

"What do ye mean by this!" exclaimed pretty little Sarah, coming around the corner of the house.

"O, nuthin', me an' Bill was jest scufflin' roun' a little, jest a friendly wrastle, ye know," stammered Mr. Daily, trying to appear indifferent.

"O, yes!" exclaimed Sarah scornfully, "you both walk a mile to get to smash down ma's choice pansies in a friendy wrastle, didn't you? You know what I said the other time you fought about me in the peach orchard, now you can git!",

"I'm ready to 'pologize, Sarah," said Mr. Daily, "the fact is that Bill—"

"I don't want to hear a word from either of you," interrupted Sarah, "are you a goin' to git!" and she glanced angrily at them.

Mr. Daily darted one savage look at Mr. Hawkins, and turning on his heel ambled off up the road, while Mr. Hawkins shuffled off in the opposite direction. He tramped on for about a mile in silence, then he dropped wearily on a stump by the roadside. Finally he rose, "B'lieve I'll go back an' tell her I'm sorry. She was'nt so mad as she looked." So, retracing his steps, he once more rounded the corner of the house to halt dumb-founded at the sight of Mr. Daily's plump figure standing on tip-toe gazing in at the window between the shutters.

"Now, see here, Jim," Mr. Hawkins began, but Mr. Daily raised a warning and a beckoning hand.

"Sh-sh-sh! Jest take a squint in thar, Bill," he said. Mr. Hawkins looked in for a moment, then stepped back and stared down into the countenance of Mr. Daily. "Jim," he said, "I'm dry."

"So am I, Bill, lets go to the spring an' git a drink, then let's go to the store an' hev' a glass of beer. My! I hav'nt had a drop fer four months 'count o' Sarah bein' agin it!"

"That's my fix, Jim," remarked Mr. Hawkins.

Arm in arm the two sauntered through the orchard to the little spring back of the house, where they found seats and sat down to rest.

"Did—did he hev' his arm around her yet when you looked Bill?" asked Mr. Daily:

Mr. Hawkins nodded. "An' was a kissin' her right afore her ma, too," he added, mournfully.

"She was laughin' about us, too, Bill," said Mr. Daily, pathetically. "We don't stand no chance agin him nohow. Why, Arthur Crandall owns the biggest ranch around here, Bill," he added, looking into Mr. Hawkin's mournful face.

"Can't never trust a woman, nohow," remarked that individual, "now I'm goin' ter 'tend to business."

"That's me, too," said Mr. Daily rising to his feet.

"Where ye goin' to, now, Jim?" asked Mr. Hawkins, also rising. "To the store. Durn water for drinkin' purposes anyhow!" He linked his arm through Mr. Hawkins' and arm in arm the two slouched down the path together.—Selma Norman.

Don't cry because you're not pretty.

The Chaperon Speaks

Isabel accepted a cup of tea as though under protest, took a slice of lemon gloomily and hunted for the sugar tons with the air of one having a suppressed murder on her mind.

As she wore a most becoming new spring frock and her hair looked particularly well, being arranged in the latest fashion, I could think of no explanation of her gloom, inasmuch as she is generally vivacious and cheerful.

"It's so annoying to have to decide things," she snapped. "It upsets me so."

"Who is the man?" I asked, to help her along.

"How did you know it was a man?" she queried fretfully. "It might have been dress goods or summer hotels. You know how long I've known Peter Hendricks—three years—and I don't know this minute whether I want to marry him or not. And I've got to decide—he insists on an answer."

"How inconsiderate of him!" I said as she waited.

"There's every reason on earth why I should marry him," went on Isabel, fiercely. "He has position and education, and charming ways and a good disposition and loads of money, and I don't see why I don't know my own mind."

* * *

"You've got your problem mixed," I told her after an instant, during which she drank tea as though her life depended upon it. You're not worrying in the least over whether you're going to marry Peter. You know perfectly well you aren't. What you are trying to decide is whether or not you have the courage to marry Dick Bassett. Why waste time discussing Peter?"

Isabel leaned back in her chair and shut her eyes. She really looked worn out, and her attitude spelled dejection. "Maybe that's it," she admitted hopelessly.

I'll give it up," I told her. "I'm sure I don't know—and you don't seem to. Of course, it was foolish in you in the first place to pick out Dick Bassett to fall in love with. You should have said to yourself: "He's big and honest and good looking and a gentleman, and decidedly lovable, and the one man on earth for me, but with my bringing up and expensive tastes his $1800 a year settles him. It wouldn't buy my gowns alone.' You should have been practical, Isabel!"

"You don't believe a word you say," she flared out, her eyes very wide open. "It sounds horrid!"

"Don't I?" I asked, trying to look offended. "You don't fancy that I am foolish enough to preach love in a four-room flat to you, do you? It sounds beautiful in theory when the lovely young heiress deserts every habit of life she has been used to since birth, gives her Paris gowns to the poor and her jewels to feed the chickens and blithely dons a print dress in which to broil the beefsteak, and lives happily ever after. You couldn't keep your hands properly manicured."

"But if—if a girl really cares—that would help," Isabel said, rather protestingly, studying the ring. "I didn't dream you were so worldly in your views."

"Maybe it would help," I admitted, "if she were able to keep up on the Elysian Heights twenty-four hours in the day. But you know how it is now when you have all the material comforts of life. You get the blues and hate everybody. How would it be then? I'm surprised at you, Isabel. You've

NEW
IDYLLWILD BUNGALOW
(Strawberry Valley)
A MILE HIGH—EASY OF ACCESS

Prices remain the same (moderate). No person with throat or lung troubles admitted.

Idyllwild is the place to go now. Mountain streams. wild and picturesque trails. Trained mountain ponies. Splendid orchestra, bowling, tennis. Tents and cottages for housekeeping.

Illustrated "Billy" booklet sent free. Gives terms and full information.

Address MR. R. A. LOWE, Manager
Idyllwild Mountain Resort Co., Idyllwild, Riverside Co., Ca

When writing advertisers mention Cultivator.

THE STAR OIL BURNER
ITS OWN GAS MAKER
(Patentees N. L. Rigby and S. S. Sprague

This Burner is offered to the public upon its merits. It is not an experiment, but a practically tested and successful invention. It has no superior for safety, simplicity, economy and durability. It is made without bolts, screws or rivets. It makes a pure dydro-carbon gas from low grade distillate oils, and gives you a lure as bright as the stars. Free from soot and smoke.

STATE AND COUNTY RIGHTS FOR SALE
For terms on burners or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation
When writing advertisers mention Cultivator.

$72.50

To Chicago and back, with similarly low rates to other Eastern points.

Tickets on Sale:
May 27, 28, 29.
June 12, 13, 14, 15, 16, 17, 25, 26, 27, 28, 29, 30.
July 4, 5, 6, 24, 25, 26.

These tickets are good 90 days and are also honored on the famous
CALIFORNIA LIMITED

Ask the Santa Fe Agent

When writing advertisers mention Cultivator.

been carted along on rose leaves always. You couldn't do it—you can't imagine how it would be. And you'd have to drop out of everything, for you couldn't keep up with your old crowd. No, on the whole, you'd better marry Peter!"

Isabel studied me shrewdly. Her mouth had been setting into firmer lines. "I wish I knew whether you were really in earnest or not," she said, wistfully. "About my not being able to make a success of marrying a poor man. Don't you think I could do it—if—if I cared for him—quite a good deal?"

"Poor, foolish child!" I said, enigmatically, with as wordlike a manner as I could assume.

I consider that one of the most tactful remarks of my whole career, for Isabel promptly chose to consider it a slur upon her heart, soul and mind, when she might just as easily have taken it to mean any of a dozen other things. She arose with dignity and gazed at me pityingly. "I suppose, with your views, you'll never understand why I did it," she said, "but I'm going to marry Dick Basset, manicured fingers or not!"

KEPT THEM BOTH AWAKE.

A clerical brother came in the other day to tell us a good story for publication "without names," says the Minneapolis Journal. It seems that in his congregation our clerical friend had two erring brothers who troubled him greatly by the habits they had acquired of catching a little repose during worship. Finally the pastor spoke after this wise to one of the wandering sheep:

"Brother Park, did you ever notice that Brother Benjamin had fallen into the habit of sleeping during service?"

Brother Park had not noticed it, but he was pained at the information.

"Well, might I ask you to sit beside him next Sabbath and nudge him in case he falls asleep?"

Brother Park would most certainly do so.

The clerical brother then seeks his esteemed co-worker in the vineyard, Brother Benjamin.

"Brother Benjamin, have you noted Brother Park's habit of sleeping during the sermon?"

Brother Benjamin had noticed it and had been pained.

"Well, would you do me the favor of sitting beside Brother Park next Sunday and nudging him in the case of drowsiness?"

Most certainly Brother Benjamin would do so.

The spectacle of the two good men keeping tab on each other in the sanctuary next Sabbath day nearly upset the dignity of our clerical friend during his ministrations.

NO CHANCE FOR HELP THERE.

A. B. Woods, the ornithologist of the Smithsonian Institute, returned recently from his vacation with an amusing story about a village usurer, says the Baltimore Herald.

"This usurer," said Mr. Woods, "had trumped up some iniquituous claim or other against a reputable widow. It was a claim that, if satisfied, would leave the widow altogether destitute, and she, on account of its injustice, disputed it. Therefore the usurer brought suit against her.

"The day before the trial the man visited his lawyer.

"What to you think of the prospects?" he asked.

"'Only fair,' said the lawyer, 'only fair. If you want a verdict in our favor you had better pray for it.'

"'Pray?" said the usurer, holding up his hands. 'Pray? No—no. God must hear nothing of this.'"

WERE ADAM AND EVE COLORED.

An American negro now in London gives a curious description of the origin of the colored race. He does not think that Adam and Eve were whites. Indeed, all people had dark skins until Abraham jumped into a pool of clear water one day. The darkness of his skin was removed by a miracle, and he emerged a white man. Others near him followed his example, with similar results, until the water gradually became brown. The people who then bathed became what are known now as Japanese and Chinese. Some lazy niggers were then about to jump into the water when Abraham ordered the caravan to move on and to this day they have remained black.

THE THEATER.

When you go to town to stay a few days and think you would like to go to the theater, don't go to the cheapest one, because you think you can't afford the best, but go to the best play and take the less expensive seats. I have seen a lot of the best things this winter from the gallery, where I was surprised I could see and hear so well—and as that was really all I went to the theater for I got so I looked down on the tops of people's heads without a twinge of envy. It's ever so much better to see a good play in a cheap seat than to see a cheap play from the best seat anybody could upholster.

THE ORIGIN OF A GREAT CHURCH

What we know as Methodism, or the Methodist Episcopal church, was in a crude way organized in 1739 by John Wesley in England. In 1743 he drew up the rules that have remained in practice until the present day. Notwithstanding the great results of his work in forming a separate Protestant denomination, John Wesley lived and died a clergyman of the Church of England.—The Earth.

WHAT IS "PROTESTANISM?"

The term "Protestants" was first applied to the followers of Martin Luther, because of their protesting against the decree passed by the Catholic States at the second Diet of Speyer in 1529. The term became the general designation for the system adopted by the Reformers in the sixteenth century and followed by their successors in later times. One of the tenets of the Protestants was that the authority of the Bible is supreme and above that of councils and bishops.

COULDN'T DECEIVE HIM.

"I want to get some bird seed," said the customer in the seed store.

"No, ye don't, smarty," replied the new clerk, recently acquired from the country, "ye can't joke me. Birds grow from eggs, not seeds."—Philadelphia Press.

"What are those purple posies down by the brook?" asks Gus. "If you mean," replies Clara, "those glorious masses of empurpled efflorescence that bloom in bosky dells and fringe the wimpling streamlets, they are Campanula rotundiflora."

Cookery Recipes

Dandelions.—Cut off the coarse, outer leaves, wash well, then leave in cold water for an hour to crisp. Drain, throw in a saucepan of boiling water that has been salted and simmer for twenty minutes or half an hour, if fully grown. Turn into a colander, press so as to extract all the liquor, then chop. Place a tablespoon of butter in a stew pan, and when melted add a tablespoon of flour. Add the greens, toss lightly with a wooden spoon and when the butter is absorbed, season with salt, pepper and nutmeg and moisten suitably with broth or gravy. Toss ten minutes longer, add if you like a tablespoon of cream, sweet or sour, and serve hot with a garnish of toast points or croutons.

* * *

Ragout of Veal Jardiniere.—A ragout is simply a palatable stew that is pleasing to the eye as well as the palate, instead of being merely irregular chunks of meat and potatoes with rags of onions thrown in. Have the butcher bone a breast of veal, roll and tie it; make a little veal suet very hot and brown the veal in this; cover with hot water, and when it has simmered one hour, add six small, young French carrots scraped and cut in halves; four stalks of celery cut in two-inch lengths, six small button onions and six small new potatoes cut in halves, and continue the cooking for another hour and a half. Dish the meat with the vegetables around, each pile by itself, alternated with little mounds of green peas, which have been cooked separately; strain the gravy, thicken slightly, and pour around or serve in a boat.

* * *

Berry Sherbert.—Mash half a gallon of strawberries or blackberries; add a gallon of water and the juice of two lemons; let stand four hours, strain, add one and one-half pounds of sugar; stir until dissolved, add ice and drink very cold.

* * *

Southern Negus.—Take one quart of red cherries, three pounds of blackheart cherries and four pounds of currants; mash and mix all together, and stand away in a cool place for three or four days; strain and boil the juice; to every pint add half a pound of sugar, let cool and bottle. Add two or three spoons to a glass of ice water.

There is no nicer spring breakfast than a sliced green pepper cut very small and cooked for ten minutes with two peeled and diced tomatoes in a little butter; add four eggs lightly beaten and stir as for a scramble

HOMELY HINTS.

Old loose kid gloves, worn when ironing, will save many callous places on one's hands.

A tablespoonful of turpentine to a pailful of water will help to set delicate colors in wash goods. It is also good for black wash goods as it keeps the black from becoming dingy. Add the turpentine to the rinse water. A tablespoonful of powdered borax in the rinse water will help to bleach white clothes.

Sponging the carpet with a strong solution of salt, or alum, or a weak solution of ammonia will brighten the colors and prevent moths.

To clean straw matting at housecleaning time, take it up as you would a carpet, spread it on the grass and sponge it off with warm water in which a large handful of salt has been dissolved.

Bright sunshine will remove scorch which has been made by using an overheated iron.

If the cover of a fruit jar sticks, do not attempt to wrench it off. Simply invert the jar and place the top in hot water for a minute. Then try it and you will find it turns easily.

Stains of varnish on the hands are sometimes very difficult to remove. As soon as possible, rub with a little alcohol on a soft rag; afterwards wash thoroughly in soap and water.

To Remove Ink From the Carpets.—As soon as it is spilled, throw salt on the spot, taking it up as soon as colored, repeating as long as the salt will show the ink, rubbing it in at the last, then sweep it out of the carpet. If rightly done, every trace of ink will be removed; have seen it tried with success on very fine as well as common carpets.

I remember, I remember, the fir trees dark and high,
I used to think their waving tops were close against the sky;
It was a childish ignorance but now 'tis little joy
To know I am farther off from heaven than when I was a boy.
—Thomas Moore.

James R. Townsend Francis M. Townsend
TOWNSEND BROS.
Solicitors of American and Foreign PATENTS
Copyrights, Trademarks and Labels Registered
Rooms 430-31-32-33 Bradbury Block Los Angeles Cal
When writing advertisers mention Cultivator.

WE GUARANTEE THE
White Lily Washing Machine
To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL.
White Lily Washer Co.
1535 Rockingham Rd. DAVENPORT, IOWA
When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.
When writing advertisers mention Cultivator.

CALIFORNIA SUGAR PINE.

Few users of wood know that on the Pacific Coast there is a vast quantity of lumber comparable in all essential qualities with the best grades of white pine ever produced in the East. This is furnished b ythe sugar pine, a tree commonly found along the western slopes of the Sierra Nevada mountains in California. Even when compared with the gian "big trees" with which it is often found, the sugar pine is not a puny tree, but often reaches a diameter of ten feet and a height of 250 feet. A single tree has been known to yield 54,000 board feet of lumber, and trees smaller than 18 inches are seldom cut at present. These facts make it evident that sugar pine lumber, in respect to the sizes furnished, is far beyond the Eastern white pine—even the pumpkin pine o fearly days.

The wood is scarcely distinguishable from white pine. It is practically of the same weight and the same color. It is somewhat more resinous, however, and perhaps a little brasher. It is soft, straight-grained and easily worked. It is used for everything for which white pine is available, and is especially valuable for pattern work. The wood is already finding its way into the eastern markets and while it is not at all likely that anything but the best grades can be shipped long distances, there is no doubt that sugar pine lumber will more and more replace its eastern relative. There is no difficulty whatever in furnishing plank up to four feet in width and absolutely free from defect, at a price that is low for material of that quality.

The cut of sugar pine lumber in Californian has increased from 55,000,000 board feet in 1900 to 120,000,000 feet in 1904, and it is estimated that there are 25,000,000,000 feet of it still standing.

Sugar pine does not form extensive forests by itself, as the white pine of the East once did, but grows with western yellow pine, white fir, incense cedar, and the "big trees." In Northern California it is found at altitudes between 2,000 and 6,000 feet above the sea, and in Southern California at altitudes between 5,000 and 10,000 feet.

The tree produces a large quantity of seeds in cones that often are twenty inches long. The seeds are large and edible, and consequently are sought by squirrels and other animals. The Indians also gather them to eat. On this account, and because the seedlings are easily killed during the first five years by lack of moisture or proper shade, the sugar pine does not reproduce itself readily; but the lumber is so valuable that there is every reason why an effort should be made to replace the trees that are cut down by others of the same kind.

WHAT A BOY CAN DO.

Be frank.
Be polite.
Be prompt.
Be obliging.
Obey his parents.
Keep himself tidy.
Keep out of bad company.
Never laugh at a coarse joke.
Never be disrespectful to old age.
Be kind to his brothers and sisters.
Take the part of those who are ill used.
Never make fun of another because he is poor.
Never tell or listen to a story which he would not repeat to his mother.

Los Angeles Markets.

Los Angeles, July 6, 1905.

Butter.

Butter remains at same quotations, but the demand is somewhat more brisk than last week, all offerings being quickly cleaned up.

B. of T. Creamery 50
Valley Creamery, fancy 50
Coast Creamery 45
Fancy Dairy 45
Cooking, per lb .....17@18

Cheese.

Cal. 3-lb. hand 16
Cal. Young America 15
California Anchor 14
Northern 12½
Eastern 16
Domestic Swiss 19
Imported do 27½

Eggs.

Eggs firm with liberal offerings.

Eggs, fresh ranch 23
Eastern .....21@22
Storage .....20@21
Northern 20

Poultry.

Poultry continues in liberal receipt, with much stock going into cold storage. Prices remain stationary.

Fryers, 2½ lbs 15
Broilers, under 2 lbs, per lb 15
Young Roosters, per lb 14
Hens, per lb 12½
Ducks, per lb 11
Turkeys, per lb .....17@18
Geese .....10@12

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs per cwt 6.25
Prime Steers, cwt 4.00
Cows, cwt 3.00
Calves, cwt 4.75
Sheep, ewes, per head 3.50
Lambs, do 3.00
Wethers, per head 4.00

Potatoes.

Seed Burbanks, per ctl 1.50
New .....1.00@1.50

Vegetables.

Onions, Silver Skins .....60@75
Onions, Texas Bermudas 1.50
Beets, per 100 lbs 75
Cabbage, per sack .....25@40
Lettuce heads, per doz .....12@15
Lettuce heads, per doz .....15@20
Parsnips, per sack .....60@65
Bell Peppers .....15@20
Cucumbers, per crate .....25@40
String Beans .....2½@3
Wax Beans .....2½@3
Green Onions ..... 15@20
Carrots, doz. bunches .....25@30
Turnips, doz. bunches .....25@35
Garlic 20
Peas, per lb. ..... 4@5
Rhubarb, per box 40
Egg Plant .....6@8
Chile Pepper, green .....10@15
Chile peppers, dry 15
Tomatoes, local .....1.00@1.25
Asparagus .....8½@10
Parsley, per doz bunches.....30@40
Summer Squash, per bx 20 lb. 20@35

Citrus Fruits.

Navels, fancy .....1.50@1.75
Lemons, standard.....60@75
Lemons, fancy .....1.25@1.75
Grapefruit .....1.25@1.75
Grape Fruit, seedless 2.25

Fresh Fruits.

Strawberries .....4@5
Cherries, per lb 15
Dewberries 3 1-3
Apricots, per box .....45@75
Peaches, per box 60
Figs, per box .....50@65
Blackberries .....3@3½
Muskmelons, Ponies 1.25
Do, 54s, ...1.50
Watermelons, per lb 1¼
Grapes, Thompson's Seedless 75@1.00
Apples, Astrakans .....1.20@1.50
Plums, ...40@1.00
Nectarines 90%1.00

DRIED FRUIT.

It is impossible to secure prices on new crop of apricots as yet. We have heard of 5½ and 5¾c offers to sell, but no buyers at any price.

Beans, Dried.

Limas 4.50
Pinks, fancy .....3.65@3.75
Pinks, rain damaged .....2.50@3.00
Lady Washington .....2.75@2.85
Small Whites .....3.15@3.35
Black Eyes .....2.50@2.75

Nuts

Almonds, paper shell .....16@17
Almonds, soft shell .....12@13
Peanuts, California .....5@6
Peanuts, Eastern .....7½@9
Walnuts, No. 1 softshells .....14@15
Walnuts, hardshells .....10@12

Honey.

Honey, comb, frames .....10@15
White, strained, per lb.....6@8
Amber .....5½@6½
Beeswax .....23@25

Hay.

Barley, new .....$7@9
Alfalfa, local new .....$10@11.50
Alfalfa, Northern .....11@12
Wheat, new .....10.00@11.00
Tame Oat, new .....$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat .....1.50@1.55
Barley .....95@1.00
Corn .....1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran $1.20
Feed Corn Meal $1.60
Middlings $1.35
Cracked Corn $1.55
Corn $1.50
Oil Cake Meal $2.10
Cocoanut Meal 1.55

First Microbe—Why did you move out of that telephone receiver?

Second Microbe.—It wasn't the proper atmosphere in which to bring up a family of children; there was too much swearing on that line.—Detroit Free Press.

San Francisco Markets.

San Francisco, July 5, 1905.

DAIRY.

Butter has taken a slight decline, being practically two cents lower than last week.

BUTTER—Per lb:

Creamery, fancy .....17@19
Creamery, good to choice .....16@17
Dairy, choice .....16@17½
Store .....15@16

CHEESE—

Cal. Creamery extra .....11 @12
Cal. Creamery extra .....9½@10
Young America .....11@12
Eastern, New York Cream ....15@16

EGGS.

Offerings of eggs have been very liberal, with the result of slightly shading of quotations.

EGGS—Per doz.:

Ranch, selected large .....18@20
Ranch, good to fancy .....17@18
Store .....16@17
Eastern, firsts .....16@18
Eastern, seconds .....15@16

POULTRY.

POULTRY—Hens, $3.50@4 per dozen, with fancy large at $5@5.50; Broilers, $1.75@2.25 for small and $2.50@3 for large; Fryers, $3.50@4; Roosters, $4@4.50 for old and $5.50@6.50 for young; Geese, $1.50@1.75 per pair; Goslings, $1.50@1.75; Ducks, $3.50@$4.50 per dozen for old, $3.50@4.50 for young; Pigeons, $1.25@1.50 per dozen for old and $1.50@1.75 for young; Live Turkeys, 18@20c per lb for Hens and 19@21c for Gobblers.

FRESH FRUITS.

Watermelons are the latest favorite in the fruit market, two to four carloads per day being received. Warmer weather is helping to move the fruit at very satisfactory prices. Strawberries are weak, being of poor quality, many of them being sunburnt. Apples are increasing in quantity and high grade yellow peaches are also more freely offered.

Strawberries, $2@4 per chest for Longworths, large varities $2.50@3.50 for Watsonville and $2.50@4 for Santa Clara.

Loganberries—$2.50@3.50 per chest; Blackberries, $2@4.

Huckleberries—10c per lb.

Raspberries—$2.50@4 per chest.

Currants—$4@5 per chest.

Apples—40c@$1.25 per box for current offerings. Crabapples, small boxes 50c.

Apricots—30@60c for small boxes and crates; baskets, 12½@25c.

Plums and Prunes—Small boxes and crates, 25@65c; basket Plums and Prunes, 12½@30c.

Peaches—40@65c for small boxes; large boxes, 65@$1.25; carriers, 65@75c; baskets, 40@60c.

Pears—50@75c per box, for Dearborn Seedlings; No. 1 Bartletts, $2.

Figs—Black, 35@50c for small packages and 75c@$1 for large boxes.

Grapes—$1@1.25 per box for seedless and $1.25 for black.

Cantaloupes—50c per crate for specials. $1.50@1.75 for ponies and $2@$2.50 for standard.

Watermelons—1½@2c per lb., or $2@$2.50 per dozen.

VEGETABLES.

Liberal offerings of potatoes have been made which have teuded to materially weaken the market. Onions are in light supply aud very firm.

POTATOES—New crop, in sacks, 40@75c per ctl.; 50c@$1 for White; Garnet Chile, 70@80c.

ONIONS—New Red, 35@75c per sack; Yellow, $1.25 per ctl.

VEGETABLES—String and Wax Beans, 1½@3c per lb.; Tomatoes, $1.50 @2; small boxes and crates, $2.50@ $3.50 for large boxes, and $1.40@1.50 per crate for Mississippi; Green Peppers, 8@12½c per lb; Green Peas. $1@1.75 per sk; Asparagus, 4@7c per lb; Cucumbers, 25@35c for small boxes and 75c@$1.25 for large; Summer Squash, 25@50c; Egyptian, 5@8c per lb; Green Corn, 50c@$1.25 per sk and $1.25@1.75 per crate.

Fruits; Dried.

New crop prunes are so far held on the .03 basis.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1904 crop, are per lb as follows:

Apples—Evaporated, 4½@7c; Sun Dried, nominal.

Peaches—Fancy, 9½c; choice, 8½@ 9c; standard, 8¼@8½c; peeled, 15@ 18c.

Plums—Pitted, 6@8½c, as to quality.

Silver Prunes—4½@8c, as to quality.

Prunes—Sack basis, f. o. b.: For boxed goods add ¼@½c; 30 to 40s, 5½ @6½c; 40s to 50s, 4@4½c; 50s to 60s, 2⅞c; 60s to 70s, 2⅜c; 70s to 80s, 2@ 2¼c; 80s to 90s, 1⅞c; 90s to 100s, 1¾c; 100s to 120s, 1½c.

Nectarines—White, 7½@8½c.

Pears—Bartlett, unpeeled, halves, fancy, 10½@11c; choice, 8½@9c; standard, 7@7½c.

Figs—White, 2¾@3¼c; Black, 2½ @5½c.

RAISINS—Prices, per lb., f. o. b., Fresno, are as follows: 1904 crop—Clusters and layers, 20-lb boxes, fancy, 4-crown, $1.35@1.40; London Layers, 3-crown, 90@95c; do, 2-crown, 85 @90c; loose Muscatels, 50-lb. boxes or bags, standard, 4-crown, 4½@5c; do, 3-crown, 4@4½c; do, 2-crown, 3@ 3¼c. Seeded—Per pkg, fancy, 16 oz, 6c; do, 12 oz., 4⅞c; choice, 16 oz, 5c; do, 12 oz., 4⅛c; fancy, bulk, per lb., 5¾c; choice, 4¾c; Thompson Seedless, 50-lb. boxes, unbleached, 4¼@ 4½c; Seedless Sultanas, unbleached, 2¾@3c; Seedless, 2@2½c.

Honey

HONEY—New crop, Comb, per lb., 10@11c; Extracted Water White, 6@ 6½c; Light Amber, 5@5½c; Dark Amber, 4@4½c.

BEESWAX—Per lb., 28@29c.

HOPS.

The price of desirable stock is 24@ 27½c per lb., according to quality.

BEANS AND PEAS.

BEANS—Prices, per ctl. for sound selections: Large White, $2.50@2.90; small do., $3.25@3.50; Pea, $3@3.25; Limas, $5.75@5.90; Red, 6½@8c; Pink, fancy, $3.65@3.90; recleaned, ordinary to choice, $1.65@2.35; Bayos, $3.65 @3.90; Blackeyes, $3@3.10; Red Kidneys, $4.50@5. Rain-damaged lots of all descriptions offering from 50c@$2 a ctl below foregoing figures, according to condition.

DRIED PEAS—Prices per ctl: Niles, $2.50@3; Green Peas, $2.50@2.75; Field, $2.40@2.65.

SEEDS—Prices per ctl: Yellow Mustard, $3@3.25; Trieste, $5@5.20; Canary, imported, $6@6.50; Hemp, $3 @3.50; Flax, $2.10@2.30; Rape, $2@ 2.50; Timothy, $4.75@5.25; Alfalfa, California, $9@11; do, Utah, $12@18.

LIVE STOCK MARKETS.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5¼c; second quality, 4¾c; third quality, 4¼c; thin Cows and Heifers, 3@4c; Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent shrinkage.

CALVES.—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy, 3@3½c, gross weight.

SHEEP—Per lb. Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¾@5¼c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs, 6c; 275 to 250 lbs, 5@ 5½c; rough heavy, 4¼ to 4½c; common, 3½@4c.

HAY AND FEEDSTUFFS.

HAY—Per ton: Wheat, $10@14.50; Wheat and Oat, $9@13.50; Oat, $8@ 12; Barley, $7@10; Clover, $7@10; Alfalfa $7@10.50; Stock, $5.50@7.50.

New Crop Wheat, $8@10; Oat, $5@8; Wheat, $8 50@12 50; Wheat and Oat $8@10 50; Alfalfa, $6@7.

STRAW—Good to choice, per bale, 25@50c.

FEED—Mixed Feed, per ton, $23@ 24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in car load lots, $18.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

GROUND BARLEY—Per ton, $22 @24.

MIDDLINGS—Per ton, $25.50@28.50.

OILCAKE MEAL—In lots of 5 tons, $33.50 per ton; 10 tons, $34 per ton, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21.50@22.50.

FLOUR AND CEREALS.

FLOUR—Net cash, Family Extra, $4.80@5.05 per bbl.; Bakers' Extra, $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 shipping, per ctl., $1.47½@1.55; White Milling, good to choice, $1.55@1.65.

OATS—Good to choice, White, $1.75 @1.80; Red, $1.70; Black, $1.52½@ $1.55.

BARLEY—Choice, No. 1 Feed, 92½ @95c; off grades, 87½ @ 90c; Shipping and Brewing, nominal; Chevalier, nominal.

CORN—Good to choice, per ctl: California, new, large yellow, $1.40@1.45; small do, $1.50@1.55; White, $1.40@ 1.45; Eastern, yellow, $1.37½@1.42½; White, $1.40@1.43¾; mixed, $1.35@ 1.37½.

RYE—Good to choice, per ctl., nominal at $1.70@1.75.

CITRUS MARKETS

Los Angeles, Cal., July 6, 1905.

The market during the past week has sagged a little on account of the demand for Fourth of July trade being over. Auction markets showing some weakness, although extra fancy stock in good condition continues to bring high prices. The Western markets are in fair condition and beginning to send in orders for shipment of Valencias for the regular trade. The sag in prices was caused by shipments continuing a little too heavy from the 20th to the 30th of June, arriving too late for the Fourth of July trade. The limited shipments that have been going out the last week will have a tendency to bring up the markets in good shape and with the light holdings of Valencias in the country there seems little reason for anything but satisfactory prices, if the shipments are properly regulated.

The Lemon market in the West has been rather sluggish on account of the cool weather, with prices from 25c to 50c per box lower, although the auction market on foreign stock remains about the same. The sale of a very small cargo showing an advance this week. Shipments continue to go out quite heavily, and while the situation will probably cause somewhat lower prices in Western markets, there is no reason why fair prices should not prevail, as California lemons may at present be sold anywhere in the United States from here to Boston.

NEW YORK.

Total number of cars sold at auction during last week was 71 as against 65 for prior week. Market on Navels was exceedingly weak, owing to very heavy decay and low grade of stuff shipped in. Where assurance was felt that fruit would show a small decay. Navels commanded fancy prices, running as high as $5, but the bulk of the sales were far below that. Valencias held very strong during the entire week, commanding an average of from $2.05 to $4.25, fancy Navels $3.75 to $5; choice, $2.30 to $2.90; Standards commanded $2.50 to $2.75.

Lemons showed very fair during the week, though there was a decline in price which ranged from $2.15 to $3.50.

Nine cars sold at Monday's auction.

Quotations on Valencias were: La Mesa, xf, Riv Ex, $3.95; Arbutus, st, CCU, Highland, $3.30; Carnation, xc, CCU, Riverside, $3.55; Cactus, xc, CCU Highland, $3.70; Golden Eagle, st, C. C. Chapman, $3.50; Independent, fy, Highland, $4.25.

Mikes, $3 to $3.80; Sweets, $2.70 to $3.25; Lemons, $2.20 to $4.05.

PITTSBURG.

Four cars sold at auction on Monday.

Some quotations were: Cal. Sunshine, fy, Redlands, $3.40; Golden Orchard, $3.25.

Mikes sold from $3 to $3.25; Sweets $1.75 to $2.95; Navels went to pieces owing to condition and sold from $1.30 to $1.55.

NEW YORK.

Wednesday's auction was very quiet with few sales. Navels in bad condition. Best fruit is now being secured from cold storage. One of best selling shipments of Navels was a car of Australians. Valencias are favorites and show best of keeping qualities.

Lemons are firm with no material change in the market.

A total of 13 cars was sold.

Some sales: Valencias. Loma Vista, ch, Redlands, $4.25; Ind. fy, Highland, $4.05; Old Mission, fy, C. C. Chapman, $4.85; Clover, xc, R O G Assn, Redlands, $3.15; Bear, xf, O-C Ex, Upland, $3.95; Carnation, xc, CCU, High Grove, $3.50.

Navels, $2 to $3; Mikes, $2.15@ 4.45; Lemons, $2.65@3.70.

BOSTON.

Twelve cars on Wednesday. Market strong and active on all sound fruit. Even the poorer keeping Navels sold quickly.

Valencias brought: Bear, xf, O-C Ex, $4.40; Rey, fy, S T Ex, $3.15; Fiesta, xc, Riverside Ex, $3.10; Blossom, xc, CCU, Redlands, 3.10; Golden Rod, ch, CCU, Allessandro, $3.80; Camellia, xf, CCU, Redlands, $4.10; Perfection, fy, CCU, Allessandro, $4.20.

Lemons, $3 to $3.75; Mikes, $1.20 to $3.30; Sweets, $2 to $3.05.

PHILADELPHIA.

Wednesday's auction took 13 cars.

Some quotations: Eagle Head, xf, I. L. Lyons & Son, $4; Pointer, xc, A. C. G. Ex, $4.15; Tiger, fy, S B Co Ex, $3.55; Independent, ch, Highland, $3.40; Golden Fruit, fy, G. O. A., $3.85.

PITTSBURG.

Five cars sold Wednesday.

Navels sold $1.30 to $1.50; Sweets, $3.10; Mikes, $1.15 to $1.55.

SAN FRANCISCO.

Condition of citrus market largely nominal.

Navels, largely nominal; Valencias, $3@3.75 per box; Mandarin, small boxes, $1.25@1.50.

Lemons—75c@$3 per box; Limes, Mexican, $4@4.50; Grape Fruit, $1.25 @2.50.

CITRUS SHIPMENTS.

Citrus shipments since November 1 total 27,200, of which 3023 were lemons.

The testimony of Mr. Brown of Redlands, before the Inter-State Commerce Commission in which he stated that it was his opinion that the icing charges were perfectly satisfactory to him and to the fruit growers whom he represented, has created somewhat of a storm amongst various fruit growers, some of whom he (mis)represented. A writer from Redlands informs us that the Board of Trade of that city had a very stormy session over the matter and correspondents of the daily press speak of a meeting at Colton which may be characterized as a warm number.

One of the statements in the resolution passed at that time is, "Whereas, Mr. Brown's interest in the citrus industry appears to be one-sixth share of ten acres, equal to about 165 orange trees, it is quite evident that he represents about the same proportion of the orchards as his testimony represents sentiment of the orange growers." The resolution further declares that the citrus-fruit industry must have relief by the reduction of freight and icing charges and that those charges should be placed in the hands of the Inter-State Commerce Commission.

"Where'd you get that red nose?" snorted Mrs. Bilkington. "Out of a bottle. Huh!"

"Where'd you get those red cheeks?" retorted Mr. Bilkington. "Out of a box. Huh!"—Houston Chronicle.

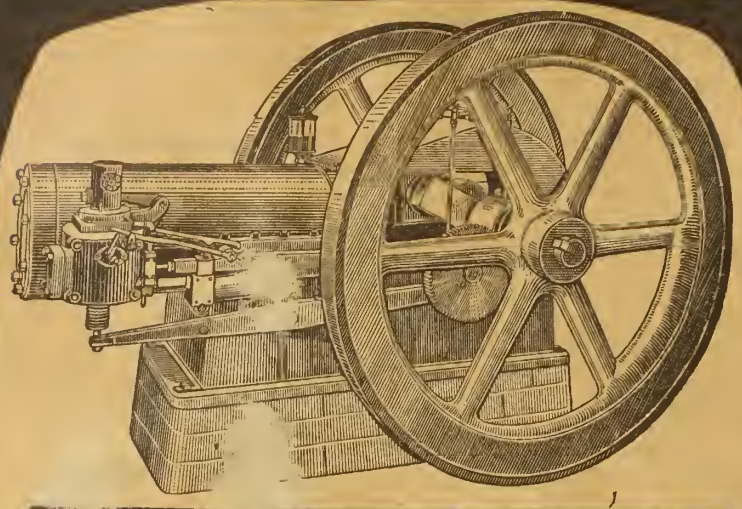
Hay, Grain, Potatoes

Car Lots

HOWARD BROKERAGE CO. FARM ORCHARD & VINEYARD PRODUCTS 170 CENTRAL AVE HOME 1360 MAIN 1545 LOS ANGELES, CAL.

Will Buy or Handle on Commission Direct Connection with Largest Consumers in Southern California

When writing advertisers mention Cultivator.



THE "WESTERN" GAS GASOLINE & DISTILLATE ENGINE.

Irrigation Plants

The Western Distillate Engine, sizes 5 to 100 H. P., is now pumping water

CHEAPER

Than any other engine built. We design the plant complete, install it and deliver to you.

Doing What We Guarantee

It will outlast any two of the old-style engines now in the market Call and see them built and tested.

Western Gas Engine Co.

908-932 N. Main St. Los Angeles, Cal.

SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay. Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.

313 N. LOS ANGELES ST., LOS ANGELES, CAL.

Write for samples, prices and booklet

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency. Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

SHASTA ROUTE

is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

$35.00 ROUND TRIP

Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOOOWARO PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BOREO WOOO WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.

Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

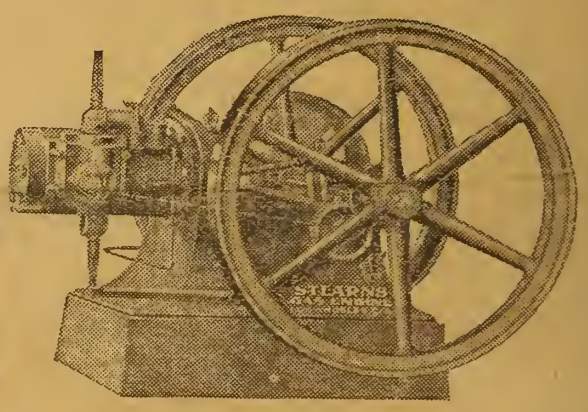
PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Simplicity HOME MANUFACTURE Economy



A first-class home-manufactured Gas Engine which is proving a winner. The mechanism on intake valves allows spring to lengthen and valve to work easier and take a larger charge when needed.

A new idea—another step in advance—is the sparker which operates only when necessary to explode the gas and gives same length of time in contact whether early or late spark.

WRITE FOR CATALOGUE AND INFORMATION

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

California
CULTIVATOR

LOS ANGELES SAN FRANCISCO

JULY 14, 1905

INDEPENDENT IRRIGATION

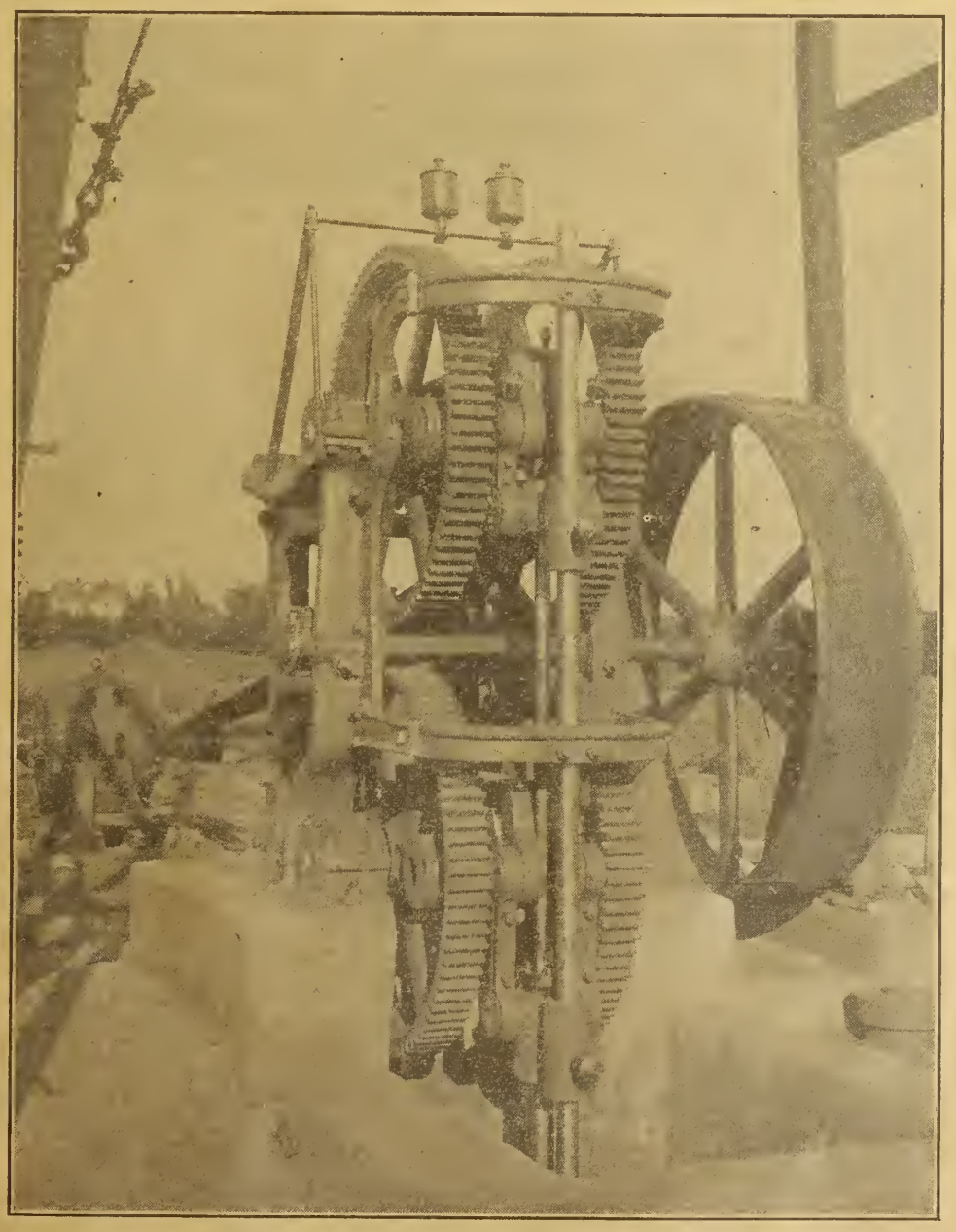
By far the largest portion of the irrigation of this State is where the gravity flow of the water to the land supplies the cheapest known means of securing water. There are cases, however, where possibilities of soil and climate combine to give high value to the product and where the gravity flow may not be secured, or, where it is insufficient. In such cases the deep well or the centrifugal pump have come in and given vastly increased value to the output.

There have been cases where the season's cost per acre for water has been greater than the total cost of improved land per acre in most sections of the Middle West.

Our government appreciates this great benefit to arid America, as is shown by its plans for the expenditure of over $27,000,000 in irrigation systems. We take pride in referring to these great works and in giving illustrations of them, but the more modest deep well and centrifugal pump have a mission which means much to all sections, and have added greatly to the wealth of the State.

The centrifugal has been a success many years, but the use of the deep well to lift larger quantities of water is a California invention. Here it has been perfected as in no other place in the world.

We give on this page an illustration of one of the most successful of these pumps.



The New Style Deep-Well Pump. See page 42.

CIRCULATION EXCEEDING 10,400

... COULSON'S SPECIAL MOULTING FEED ...

A FEATHER GROWING FEED

A specally prepared or properly balanced mixed feed containing the right component parts of materials for producing the rapid growth of feathers.

The term "molting" denotes the process of the birds shedding their old feathers and growing new plumage.

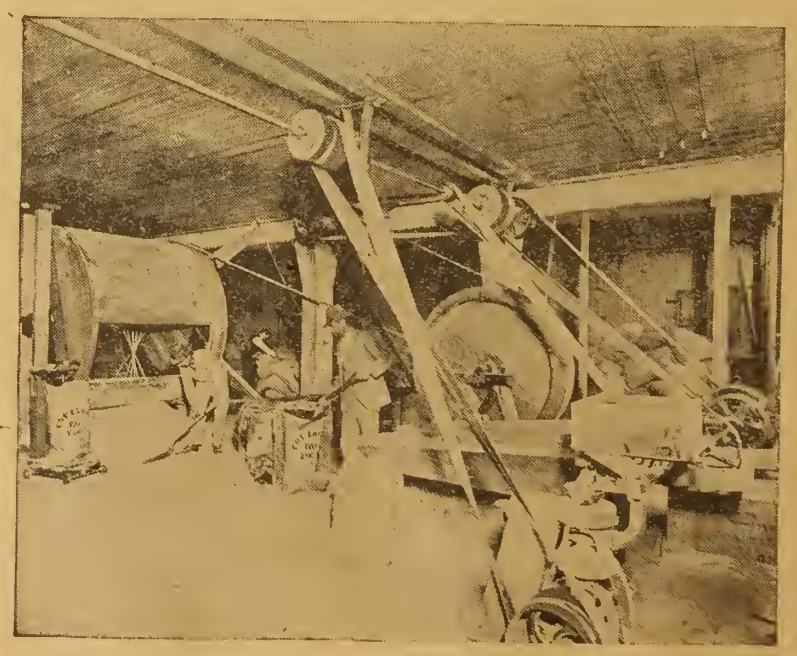
It is not necessary to starve the hens to make them molt, neither is it necessary to stop egg production. Hens fed with good feed and with good digestive capacity, can lay eggs and make feathers at the same time.

Keep hens for profit—intelligent feeding returns a profit. Feed a good balanced ration (Coulson's Egg Food) the year round so as to keep the fowls in good normal and healthy condition; then when the molting season comes and you want your fowls to molt, and get through molting before winter sets in, just start feeding them COULSON'S SPECIAL MOLTING FEED, and the fowls wil soon be getting a beautiful glossy plumage (due to articles in the feed) and will get their new feathers in short order; for in this Special Molting Feed they get the material needed for feather production.

Knowledge is power, and the knowledge needed now by poultrymen is to know just what foods contain the most of certain kinds of nutriments, and will produce the rapid growth of feathers and also keep the bodily health of the fowls. This is why it pays to feed Coulson's Special Molting Feed during the molting season.

Young healthy fowls fed on the right kind of feed will complete their molt in sixty days; older fowls will take longer. Birds not properly fed during the year will be weak during the molting season; they lack vitality, and will molt very slow, probably taking six or more months to get their new growth of plumage, and quite a number of the weaker birds die from the strain of molting or from exposure.

Loading Cars with Coulson's Food for Laying Hens



Interior Scene of Coulson Co. Manufactory

Young birds will molt and grow new plumage at the expense of health; old fowls will keep up their bodily needs, and go bare unless they are furnished the proper food to make the feathers grow.

The molt is a strain on the vitality of any fowl, for besides keeping up the heat and wear and tear of the body, the fowl must produce and grow new feathers; consequently the fowls should be fed a good rich food containing the right compoment parts of ingredients that will make feathers, and unless fowls are kept in good healthy condition, and fed the right food, many fowls will die during the molting season.

When fowls have been fed the year around one meal a day of Coulson's Egg Food so that they are in fine health at the beginning of the molt, if they are fed then for two months on Coulson's Special Molting Food, the growth of new plumage will be rapid, the new feathers appearing gradually as the old feathers drop off; and the bird may never appear worse than a little rough coated, and the egg production will average about one in three days. Some birds even doing better, according to their digestive capacity.

Any one keeping fowls will surely be pleased to get eggs in fall and winter when eggs are bringing the highest prices. For this reason one should assist the fowls during the molting season by feeding them Coulson's Special Molting Feed, so that the fowls will get through the molt before the winter weather sets in. The fancier also desires his fowls to complete their molt early so they will be in exhibiting condition for the poultry shows.

Fowls fed on Coulson's Special Molting Feed will have a beautiful bright, glossy plumage (a condition of perfect health), and will be pleasing to the eye, so that the owners will be proud of their birds. This feed supplies the fowls with the minerals and protein substance, etc., needed for the growth, so that fowls can complete their molt and begin laying before winter.

MAKES HENS MOULT IN HALF THE TIME

MANUFACTURED BY

The Coulson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 2 LOS ANGELES, CAL., FRIDAY, JULY 14, 1905 Subscription $1 a Year

Pajaro Valley, Its Great Apple Industry

Importance of the industry to a State, by President C. H. Rodgers of the Apple Crowers Association

There is an old Indian tradition that at a remote period the mountains were continuous across what is now the entrance to San Francisco bay and prior to the time that an earthquake rent the mountain and formed the Golden Gate, all the drainage waters from the great central valley of our State met the ocean in what is now Pajaro Valley.

Modern scientific research confirms the legend as correct. Furthermore, it is obvious to anyone familiar with the topography of the region that were a barrier thrown across Golden Gate today the waste waters of the interior would first accumulate, forming an immense lake covering over the territory now included in San Francisco bay and Santa Clara valley, finally being able to reach the ocean only through Pajaro valley.

Assuming the legend a fact, the great depth of soil of this valley and its remarkable fertility might be accounted for in that they are the concentration of richness carried down through countless ages in suspension and solution by the flood waters from the slopes and valleys of the Sacramento and San Joaquin rivers and caused to precipitate on meeting the waters of the ocean.

* * *

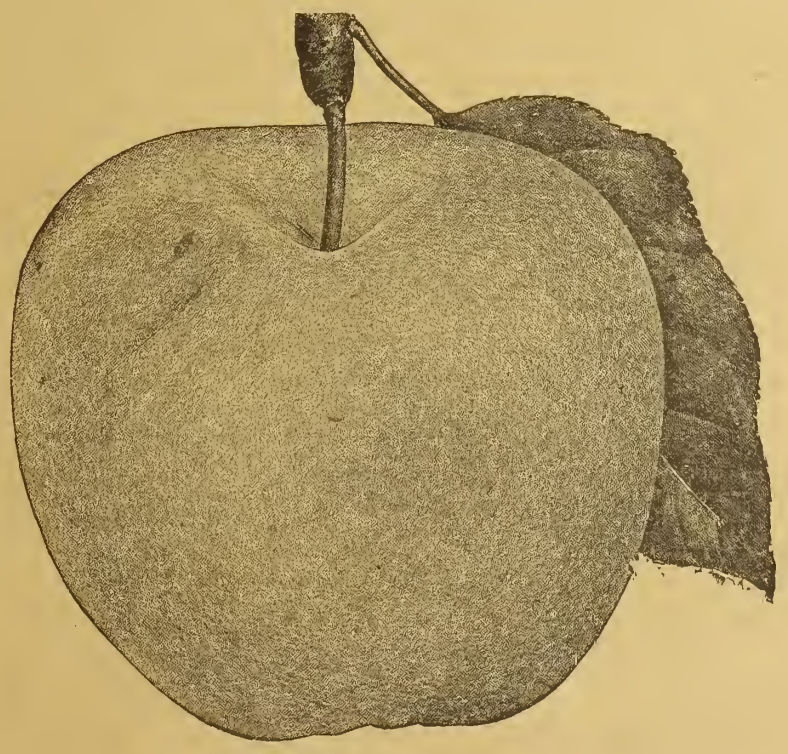
Pajaro—Bird—The valley was discovered in October, 1769 by the Portola expedition, which, under instructions from the king of Spain, had been sent north by land from San Diego in search of Monterey Bay. After the long, tiresome march over desert and parched soil, so pleasing was the contrast between the scene spread before the little company of explorers on first viewing the valley compared with that region which they had recently traversed, the scribe of the expedition in his records gives expression to his admiration in these words: "A meadow beautiful to behold, because of the great variety of trees and plants." The locality received its name on that occasion. Pajaro means "bird" in the Spanish language and the name was certainly appropriately applied, for in no other locality could be found the great number and variety of birds.

* * *

Extent.—The valley extends east and west and opens out upon Monterey bay midway between the cities of Santa Cruz and Monterey. It is surrounded on the north and east by the Santa Cruz mountains, which divide it from the famous Santa Clara valley and on the south a low range of hills divides it from the extensive Salinas valley in Monterey county.

Though limited in area, being only ten miles long by about four wide, its favorable combination of climate and soil make it specially fitted for the production of the greatest variety of crops.

With an average rainfall of over 20 inches, an exceptionally fertile soil extending to the water-table, which latter varies from eight to twenty feet from the surface, mild winter temperature



and summers cooled and moistened through ocean influences, where else from an agricultural standpoint, can a more ideal spot be found?

* * *

Variety of Products.—While the apple crop is first in importance, the list of products covers the widest range, including all the deciduous tree fruits—the apricot, cherry, prune, plum, peach and pear, all varieties of berries, all the cereals, hay, potatoes, sugar beets, beans, corn, alfalfa, hops, squashes, melons, garden "truck," nuts, dairy and poultry products, the latter particularly, are assuming important proportions. Then, too, the nooks in the bordering mountains make a very creditable showing in grapes, lemons and oranges.

Irrigation is not necessary except for berries.

The revenue realized from these industries has caused this community to become one of the most prosperous. It is a busy place, with employment for all its inhabitants and all who will, even the most humble, may have a bank account.

Individual holdings are small, varying generally from ten to seventy-five acres. So well contented are land owners with their profits that it is seldom a change of ownership occurs in best lands and when transfers are made, the price per acre reaches into the hundreds. Though as stated the best lands are difficult to obtain even at high prices, yet very good lands may be bought in the foothills at seventy-five dollars and upwards, per acre.

Watsonville, the only town, is centrally located. Its population is upwards of 4000. Here is the concentrating point for the products of the surrounding region and also the distributing center of the valley and territory adjacent thereto.

The continual inflow of some of the already enumerated products during every month of the year, with ready sale or exchange for other commodities, makes Watsonville one of the liviest and most thriving towns on the coast.

Shipping facilities are good, there being three lines competing for the traffic. There are the S. P. Coast Line, which passes through the valley, the Pajaro Valley railroad, and the Watsonville Transportation Co., an electric and steamship line owned by the citizens.

The building of the last named transportation line was the result of what our people considered unjust discrimination on the part of the S. P. R. R. Co., against this locality. Becoming exasperated after repeated petitions to the railroad authorities for relief, and as often being refused, the people of the community in 1904, through sale of stock and bonds, raised funds, built an electric road to Monterey bay, five miles distant from Watsonville, there connecting with our own steamer.

The inauguration of this new system brought about a revolution in conditions pertaining to the local freight traffic. Not only were rates reduced, but other matters which had caused shippers much unnecessary annoyance and loss, were speedily remedied.

The existence of this, the people's traffic line, though at present somewhat embarrassed financially, not only inspires producers and shippers with a feeling of independence, but also presents great possibilities for the future welfare of this locality. With the Isthmian canal completed, our products, chiefly our apples, which must find sale in distant markets, may be sent by ship-load from Port Watsonville direct to any seaport market of the world. In that event the cost of transportation would be materialy reduced and the net profit on the product proportionately increased.

* * *

Apple First.—In almost every new settlement since the founding of our country, the planting of the family orchard followed close after the building of the home. Pajaro was no exception to the rule, as we find that an orchard was planted as early as 1853, shortly after the first American settler located here. In those early plantings, the apple generally had first place. This proved the case here, also, and the early settler in selecting his trees for the family orchard aimed generally to secure a great variety of apples. This was a wise procedure, as there was not other means of determining what varieties were best adapted to the locality and the results of the tests proved of value in planting later years.

* * *

Best Varieties.—Though all the known varieties can be produced in the Pajaro district, all do not attain a high standard of excellence, and some prove a disappointment. Summer

(Continued on Page 42)

SUMMER PRUNING.

From careful experiments made by the Horticultural Department of the Kansas Experiment Station during the past four years it seems that the pruning of fruit, shade and timber trees during the early summer and late spring is more satisfactory and secures better results than pruning done during the dormant season—winter and early spring.

Wounds made before the middle of July have healed rather more quickly than have those made at a later date, but wounds made as late as August 15 have healed very successfully. The danger of loss of sap is less after the tree is well in leaf than from wounds made during winter and spring.

In extensive tests made on an apple orchard some very satisfactory results have been secured with ten-year-old trees which had borne but little and showed but few fruit spurs. Trees pruned in the summer of 1902—the pruning consisting of cutting back new wood and thinning out where a heavy growth shaded the two and three-year-old wood—and a similar but lighter pruning given in the summer of 1903, were full of bloom in 1905 and are carrying a very fair crop of fruit.

Trees pruned in summer have grown fewer "water-sprouts" than those of similar age and grown in a similar soil, pruned in winter or early spring. Water-sprouts removed during summer are less liable to be followed by another crop of the same growth than where the pruning is done in winter.

The operator is less likely to remove a large amount of wood, for he can readily see the danger of sun-scald where too many or too large branches are removed. The thinning out and cutting back of the younger branches should be all that is required when the orchard has had a reasonable amount of care given to its formation, and this light pruning given in early summer seems to be good treatment for unproductive trees.

SPRAYING FOR MOTH.

The Watsonville Pajaronian, referring to Horticultural Commissioner Rodgers' spraying operations this year says that he is using entirely arsenate of lead and is much pleased with the results.

He says that it is a difficult matter to find a worm on the sprayed trees, while check trees in the same orchard show a number of the pests. While it is too early in the season to proclaim victory over this dreaded pest, Mr. Rodgers firmly believes that in the arsenate of lead orchardists of Pajaro valley have a remedy that will prove effectual in the case of the codling moth.

It is reported that the moth is showing up in greater numbers than ever before and that the growers who neglect to spray will be able to get only a small percentage of their fruit into the higher grades. Every step should be taken to secure from the bountiful crop which is promised for this year as much increase as possible and this can only be done by well graded fruit, free from worms.

WATERMELONS.

California orange growers are not the only ones who are anxious to dispose of their fruit crop to the early customer to the extent of shipping green and sour fruit, for word now comes through the Chicago Packer that Georgia and Florida watermelon growers are shipping to eastern markets some fruit which is entirely unfit for eating. The commission men, to overcome this, hold the fruit to ripen until it has lost its best quality and this has resulted in serious injury to the watermelon trade. The Packer also announces that the usual eastern market wants no small melons and says to ship nothing under twenty-five pounds.

There is on foot an effort to spread the field of growth of the Rocky Ford melon in many sections of the South, in order to fill the early markets from those sections. The first of these melons arrived in Cincinnati market this year on May 25th.

The cool weather of Chicago has seriously affected the market at all points, causing exceedingly slow sales of watermelons. The quality of the stock has been very high as a rule, twenty-five pounds being an average size. Such fruit has been moving at about $150 a car, running about 1000 to 1100 melons per car.

THIN THE APPLES.

How can quality be secured? By growing only high grade apples, and not more to the tree than each tree can easily carry; by marketing only the choicest apples, not smaller than four-tier stock, wrapped, packed and boxed as the trade requires.

This is a good time to work together to regain first position for Pajaro valley apples. The season has been most favorable for the trees and growing fruit. Supplement the work of nature by taking off the surplus and scarred apples on each tree until not smaller than four-tiered stock is assured. Then let the apples properly mature, and grade to right color and pack properly when they are picked and matured. If this is done we need have no fear of the competition of any Newtown or Bellflower district in the country, for our apples will sell readily and at right prices.

Don't forget to thin—and then thin again, and then some more.—Pajaronian.

The annual meeting of the American pomological society occurs at Kansas City, August 8 to 10. The most prominent horticulturists of the United States will be in attendance. This society is closely connected with the department of pomology at Washington. L. A. Goodman, 4000 Warwick avenue, Kansas City, Mo., will furnish further information.

Don't make the same mistake twice.

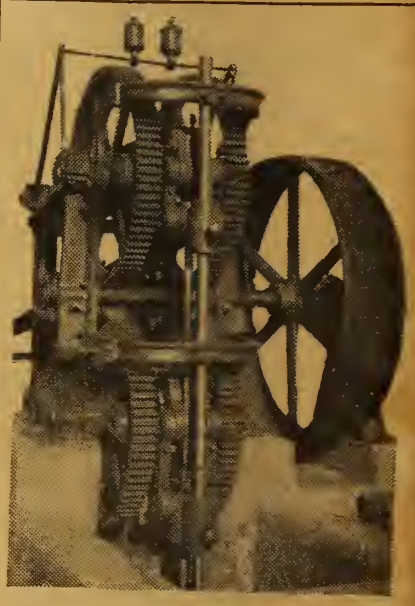
VITALITY OF WEED SEEDS.

An interesting light has been thrown upon the subject of validity in weed seeds by Prof. W. J. Beal, in the Michigan farmer. "In the fall of 1879," he says, "twenty-two years ago, I selected seeds of twenty-one kinds of plants, all of them common weeds except one. A considerable number of sets of these were buried in 'clean dirt,' consisting of sand from a depth of about two feet. Fifty seeds of each kind were counted out and placed in each bottle which was buried at a depth of two feet. The seeds were well mixed in each bottle with the sand referred to. At periods of five years a set has been dug up and tested. At the expiration of twenty years, i. e., two years ago this fall, one set was taken out and the sand containing the seeds placed in two soup plates and gently watered. Some seeds were prompt in coming up, and were removed and tallied as they were identified. But there were laggards which skulked in the moist sand. I dried off the dirt for a rest from time to time, and on wetting the sand after two two weeks to a month or more other seedlings appeared. The last long rest consisted of perhaps eight months, continuing until November 15, 1901. After five days three seedlings are already in sight and I am expecting others after a little more time. As I look at it, the delay of some seeds in germination is of great advantage to the weed, for, if a great many seedlings start, there may be too many to thrive well, and some will be choked and perish. Again, some of the seedlings, or all of them, may be killed by an untimely frost or by the ruthless hand of the tidy farmer and when the ground is stirred there is a reserve of seeds to start another crop as a second planting, and still others may serve as a third or fourth planting. In case all the seeds were favorably exposed when fresh, most of them, probably all, would germinate. After they had been buried twenty years or more a variable number of seedlings appeared of the following species: Our most common prickly pig weed, mustard, shepherd's purse, pepper grass, mayweed, common mallow, evening primrose, smartweed, purslane, narrow leaved dock, a chickweed, the blanket-leaf mullein—twelve in all out of the twenty-one species buried. If any additional lesson were needed regarding the cost of growing a crop of weeds—of permitting weeds to get a start—here it is. If the earth is once well seeded and a man begins at once to keep each weed from going to seed, he will not kill the last seedling of the old crop inside of twenty years or more."

The world is willing to take off its hat to the boy or girl who works.

GOOD APPLE YEAR.

Three thousand carloads of apples is the estimate of the output of the coming crop of the Pajaro valley. It is said that handling of this crop will test to the fullest capacity the packing houses of the valley. It is hoped the cars will average at least $500 for all varieties, which will make a neat little addition to the bank account of Watsonville when a million and a half is secured at the end of the season. The price may, however, have a serious handicap in the fact that last year's output of almost the entire valley was really below its former good quality. The cause of this is said to be a hot wave which swept over the valley during the critical time in the growth of the fruit, seriously injuring it in texture and flavor. This may be remembered by the trade but, at the same time, we believe once the good quality of this year's fruit is apparent, the trade will be quick to appreciate it and it wil sell upon its merits of the present year. The Pajaronian makes an appeal to the growers and packers to see that none but the finest fruit, properly sorted, graded and packed, reaches the markets.



IF YOU SEE THE

NEW POMONA PUMP

Work, you will have no other under any consideration.

The long, easy stroke without any jerk or jar makes them popular at once.

Built on strictly mechanical lines, having a direct center pull on the rods.

Where one goes others follow and we are rapidly taking the country.

Every customer is a pleased customer and our best advertising medium.

Write for our new catalogue.

Pomona Manufacturing Co., Manufacturers
POMONA, CAL.

When writing advertisers mention Cultivator.

WATER IS KING
pump your own water
by cheapest known method.
Write A.T.Ames, Galt, Cal. for
catalogue

SOME HONEY PRODUCED IN CALIFORNIA.

From an address made by Mr. C. H. Clayton before the Committee on Agriculture of the Legislature of this State some time ago there is a fund of information as to the extent and importance of the honey industry of this State which is well worth repeating at this time. On those points Mr. Clayton said:

"The number of beekeepers engaged in the production of honey for market is about two thousand. They produce annually 400 carloads of 15 tons each, equal to 12,000,000 pounds of honey, and 50,000 pounds of wax. The value of these products at shipping point is over $700,000. The amount of capital invested in bees and bee fixtures (not including land), is over $1,000,000. Invested in manufacturing plants, such as planing mills, box factories, tin, zinc, galvanized iron and wax working machinery, dependent in whole or in part on the bee industry, at least $250,000 more. A full crop of honey represents a yearly expenditure by us of more than $60,000 for tin cans alone and $12,000 more for box lumber, to say nothing of the thousands paid yearly for the many other articles used, such as nails, wire screens, paint, glass, lumber, etc.

"The industry covers the whole State, but is most highly developed in the south and south central portions and adds largely to the assessment roll of almost every county. The twelve counties having the greatest honey interests, namely, Los Angeles, Riverside, San Diego, San Bernardino, Ventura, Orange, Inyo, Kern, Tulare, Kings, Santa Barbara and Fresno, have about one-fourth of the population and fully half of the beekeepers of the State. The great alfalfa region in the central portion of the State and even the far northern counties are rapidly becoming producers of honey.

"A few years ago it was something unusual to see a carload of Fresno or Tulare honey. Last year little Kings county alone produced more than a dozen carloads. The southern end of the San Joaquin valley—Kern, Tulare, Kings and Fresno—ship anywhere from 50 to 125 cars annually. Then there is Merced, San Joaquin, Sacramento, Colusa and other counties I could name. Some of the finest comb honey I ever saw came from Grand Island on the Sacramento river.

Making Bees Swarm.—If bees continue to swarm out and go back for a day or two, the probabilities are the queen is unable to fly. Swarm them artificially at once, by shaking nearly all the bees and the queen from the combs into an empty hive. There are probably several queen cells on the combs of brood which will furnish the new colony with a laying queen.

Mrs. Benham—I wonder what people wear in heaven?

Benham—I suppose you will want the most expensive things, the same as here on earth.

Mrs. Benham—That needen't worry you; you won't be there to pay for them.—Kansas City Indepeident.

SUMMER FALLOW.

The practice of summer fallowing is probably almost as old as agriculture though many feel that it is a practice of more modern discovery. Without question in many sections exceedingly rich soils in humid countries it has proved of great advantage. Also in arid countries, it is possible that the succeeding crop will be far greater than it would otherwise have been. But, under the condition which prevails in most arid sections, we believe a serious mistake will be made in the use of summer fallowing methods. Notwithstanding that, we notice the following in the Deseret Farmer:

"The practice of leaving the land fallow or uncropped every other season, or in some instances every third season, is followed on many arid farms throughout the West. It has been discovered that this method results in better yields than when the land is continuously cropped.

* * *

On our arid farms, however, the great object in fallowing is the storing up or conservation of moisture for the succeeding crop. By proper methods or tillage the precipitation of two years may be stored in the soil and can be drawn out by the crop when needed.

* * *

While the practice of summer fallowing is not to be commended on many of our small, intensely cultivated farms it certainly has its place on the arid farms.

* * *

In the same article the Farmer recommends the use of green manuring for the purpose of adding humus to the soil and bettering its mechanical condition. On this last point, we think the Farmer is eminently correct, but in the matter of summer fallowing on arid sections we think a word of warning which we heard from Professor Withycome, of Oregon State Experiment Station at Sacramento about a year ago is worthy of being repeated. The warning was in effect that in the arid sections, especially where a high degree of heat prevails during much of the year that there is great danger of burning of the humus and leaving, instead of a friable, easily worked soil, a putty-like condition which would in the course of years become so serious as to practically destro ythe soil until renewed by artificial means. "Of course," Professor Withycombe said, "this might exist for many years and on rich soils of the more humid sections it might be continuer indefinitely, but in the arid sections it must either be stopped or the condition which prevails in some parts of the San Joaquin valley where summer fallowing has been followed for years would confront the farmer." We believe that Professor Withycombe is right and that while the succeeding season shows a better crop because of this same burning out of the humus and changing it over into available plant food, yet it is paying a fearful price in the ultimate destruction of the soil. The one thing lacking in nearly all soils of the arid sections is humus and every possible means should be availed of to not only prevent loss of the humus but to add to it. In that respect, the recommendation of the Farmer is wise, but in its recommendation of summer fallowing in arid sections we do not believe that the season should be allowed to blind the immediate returns of the summer eyes of the farmer to the systematic destruction of the land.

REFINING BEESWAX.

Editor Cultivator: I have a lot of beeswax which, in running into cakes I find difficulty in separating the wax from the sediment. What is used to settle the dirt or free the wax from it?—S. J. L., Lemoore.

There are several methods of refining beeswax—by centrifugal force and wax press, solar extractor, etc. All of which require more or less expensive appliances. We give the following from Root's A B C of Bee Culture, which perhaps may give the required information to our inquirer:

"Our tank is a little over three and a half feet in diameter, and about five feet high. Water is run into it to a depth of twelve inches, and then 1500 pounds of wax is thrown in, making it about full. The mass is then heated by means of a jet of steam from a pipe projecting down into the water from the top. When all the wax is melted, the acid is poured in. If the wax is so dark as to make brood foundation, seven pints of acid is used; but if light enough to make surplus foundation, not more than three quarts is used. If the wax is already of good quality, so small an amount as two quarts of acid will answer. On the average, therefore, we use three quarts of acid to eighty gallons of water for 1500 pounds of wax. C. M. Doolittle recommends using a pint of strong vinegar in one quart of water for every ten pounds of wax. The vinegar may be used in place of sulphuric acid, but where a large lot of wax to be rendered the acid is far cheaper. Soon after this is poured in, the color of the boiling wax will be seen to grow lighter, and, after a minute or so, the boiling is stopped.

The steam pipe is now drawn out, and the tank covered with a cloth or carpet, and allowed to stand as many hours as the wax will remain liquid, or about twenty-four hours. At the expiration of this time the water and acid will have settled to the bottom by reason of their greater specific gravity; and the acid, in turn, having a greater specific gravity than that of the water, will settle to the bottom of the water; and th econsequence is, that the wax itself, after being purified, is allowed to become thoroughly cleansed of any residue of acid, and the dirt accumulation will all have settled to the bottom of the wax and into the water. The melted wax is now drawn off from the top, and poured into any sort of receptacles with flaring sides. When the wax is nearly to the bottom, or when it shows evidence of coming near the dirt, the rest is allowed to stand. As soon as it is caked in the tank, it is lifted out, and the dirt clinging to the bottom scraped out.

Without the Steam-Jet—But suppose you do not have steam, and can not very well have access to it. In that case you can use, in a smaller way, a large earthenware kettle. Into this put a small quantity of water, and, after it has come to a boil, put in a cake of wax. When melted, add the acid.

"If this is too slow and tedious a job, a large iron kettle that will hold seven or eight pails of water may be used. Fill this kettle about half full of water. Start a fire under it; and when the water boils, put in the wax. When melted, add the proportionate amount of acid. Keep hot for a few minutes, and the nallow the fire to die down. As soon as all the particles of dirt have settled in the water, dip off the free wax on top, being careful not to stir up the dirt in the water.

While the iron in the kettle may be attacked slightly, yet it will do no particular harm. When through with the kettle, clean it out with boiling water and rub over with grease."

Shade is appreciated by stock as well as by humans.

RANCH FOR SALE

13 acres 12 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R. D. 1 RIVERA, CAL.

When writing advertisers mention Cultivator.

THE "BOSS" TREE PROTECTOR

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

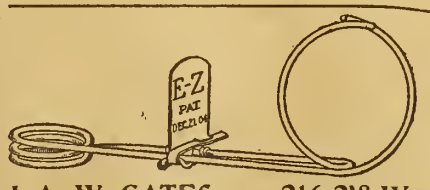
12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING CO.

450 Santa Fe Ave. Los Angeles, Cal

When writing advertisers mention Cultivator.

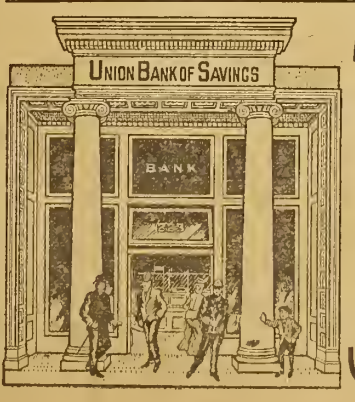


45 cents for 3

I will mail three E-Z GOPHER TRAPS as samples for 25 cents. Write now.

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

When writing advertisers mention Cultivator.



Union Bank of Savings

RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits

4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.

California Horticulturally

By John Isaac, Sacramento, Cal.

SHORT PEACH CROP.

Peaches are very scarce in the orchards of Sacramento county this season but in the Vacaville and Yuba county orchards they are reported as promising better. At the present time it would appear that all over the State the crop is spotted at best, and will very probably fall below normal.

* * *

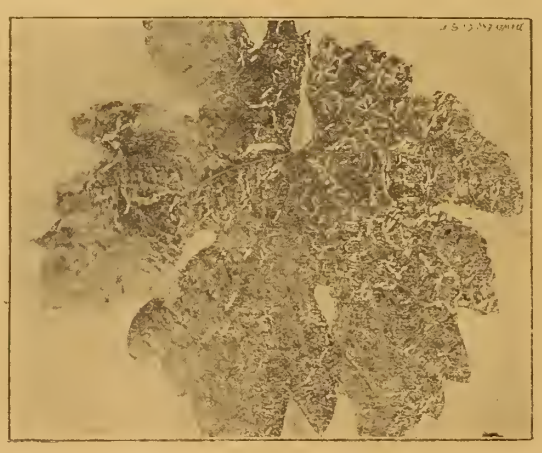
SATISFACTORY FLOWERS.

We do not know of three more satisfactory or easily grown flowering plants for out of door decoration in the northern and coast sections than roses, geraniums and fuschias. In our climate these plants grow to enormous size, without much attention and are generally loaded with blossoms. They can be had of all colors and shades of color, are perennial and do not need replanting each spring, and for a fence cover or a porch corner we do not know of any more showy and desirable flower than one of the geraniums or a strong growing fuschia.

* * *

THE GRAPE VINE FLEA BEETLE DOING DAMAGE.

Numerous complants have reached the office of the State Horticultural Commission as to damage now being done in the vineyards by that old and common pest of the vine, the grape leaf flea-beetle (Adoxus vitis.) This is by no means a new pest in the vineyards of the northern counties and every season it does great damage, especially to the table grapes by its depredations. It not only perforates the leaves but also attacks the stems and the young grapes, causing the berries to crack as they increase in size and rendering the fruit unfit for the market. In many cases the stems are entirely girdled and the supply of sap cut off, stopping the growth of the bunch. This season the pest seems to be especially bad on the Flame Tokay grapes in the vicinity of Sacramento, and the growers of table grapes there are threatened with considerable loss. It is too late in the season now to do much toward overcoming the pest, but in the early season they may be checked by the use of the Paris green spray. According to a description of the insect in a bulletin issued by the State Board of Horticulture in 1891, the beetle is nearly a quarter of an inch in length, some black and others reddish brown. The base of the antennae and the tibae are reddish. They attack the leaf, cutting long narrow slits, and where very numerous will kill young vines unless checked in their depredations. The appended illustrations will give a good idea of this pest and its work. The Modesto News states that "gardens and orchards in the vicinity of Hickman have been invaded by flocks of diabrotica, a species of lady-bug," which have done a great deal of damage. It is a serious matter for the lady-bug, which is always our friend, to be mistaken for the diabrotica, which is always and under all circumstances the worst of our beetle pests. There is no resemblance between the diabrotica and the lady-bug, either in appearance or habits, but we have known people to gather and kill the lady-bug because they knew the diabrotica was a pest and so concluded that all lady-bugs must be. We once visited a garden in which we found the owner industriously gathering all the lady-bugs he could find and dropping them in coal oil, and he had spent several days in gathering up and destroying his best friends because he found them on his plants. The diabrotica is a longish, green beetle with stripes or spots; it has a very prominent head and long feathers. We have no green lady-bugs, and all our lady-bugs are nearly hemispherical, their heads are close to the thorax, and they have no distinct neck, while their feelers are very short. People will always be safe in destroying the diabrotica, but will make a mistake in destroying the lady-bugs, and every farmer and fruit grower should learn to distinguish between them.



The Grape Vine Flea Beetle (Adoxus Vitis) and its work.

GIVING A GOOD FRIEND A BAD NAME.

* * *

PRICKLY PEAR IN AUSTRALIA.

The Department of Agriculture in Queensland offers £5000 for the discovery of some means to eradicate the Prickly Pear cactus. It stipulates, however, that the cost per acre shall not exceed a reasonable sum. One would think that the seeds of the Prickly Pear enveloped in dense pulp would lie where they fell, unless transported by birds, whose flight would not be very long, but this terrible cactus is traveling over the world with unaccountable speed. It is a nuisance in India, a pest in South Africa, there are complaints in the Soudan, and we hear of it in Uganda. The thing is not altogether without virtue. Thrown upon the fire for a moment to burn off the spines, it may be mashed into a food for horses or cattle, very valuable in times of drought. But this service is not required every day, whilst the mischief it does is incalculable. In thinly peopled districts it has entirely stopped the roads, compelling travellers to circle around the growing mass.

PREPARING FRUIT FOR EXHIBITION.

The Kansas Experiment Station has issued another of its valuable little bulletins, this time touching upon preparing fruits for exhibition. Its general suggestions are so good that we give nearly in full:

Every fruit and vegetable that is to go on exhibition tables should have the best possible opportunity for development. This will usually require thinning, and sometimes a little pruning in order to give the fruits a chance to color. Every exhibitor must consider his exhibit from the judge's standpoint. While there are at present no authoritative standards, most expert judges have an outline they follow more or less closely. A general plan for all fruits, established by the Massachusetts State Board of Agriculture, is used in its present or a slightly modified form by many judges. It is as follows: Quality, 20 points; form, 15 points; color, 15 points, size, 10 points; uniformity in size, 20 points; freedom from imperfections, 20 points; total for perfection, 100 points.

Nearly all points are considered from a commercial standpoint. The over-sized fruit is not wanted by the markets, and over-grown specimens are likely to be cut by the expert judge. Quality is a hard point to handle, especially with fruit not yet ripe, and in such cases is often disregarded or estimated by the form and general appearance of specimens. In competions of storage fruits, however, it is of special importance. Uniformity of specimens is a most important matter. Fair-sized fruits of even form and color of the proper type make good plates. They show to much better advantage than uneven specimens. Freedom from blemishes should be insisted upon. A fruit injured by insect, disease or accident is not marketable and deserves a hard cut. Some older judges disqualify such fruit from competition.

Fairs should be educational in character. Those who attend should see only good specimens, such as the world markets want, if they are to be benefitted by their attendance. The grower should know what is wanted, and if he does not, the fair may be a valuable school for him.

RURAL DELIVERY.

There are, at this time, 4708 applications for new rural delivery routes before the postoffice officials. The new routes are being established at the rate of about 600 per month. Thus far, the service has reached about one third of the rural population of the country and is costing in excess of $20,000,000 a year. This is causing a roar on the part of some of the commercial people of the country, claiming this service should be dispensed with to reduce the deficit in the department. To this, the farmers naturally reply "Cut out the graft with the railroads where several times the rate which the same corporations receive from the express companies is paid by the government, when the deficiency will be wiped out and the department self-supporting." The howl which is going up for the discontinuance of this magnificent rural service will never win out. The tendency of the United States has not been backward in any marked degree.

The importance of the Bermuda onion industry to the farmers in the neighborhood of Coachella and Mecca has been spoken of in the Cultivator heretofore and we now note that the Submarine is speaking of the great possibilities of that section in the production of early onions. Some great profits have been secured during the past season. These, in some instances, have been reported to be as high as from $400 to $700 per acre. It is said the field in which this industry flourishes is very limited, only favored sections of the south which are free from frost giving the right condition. This gives comparative freedom from competition and it is claimed will cause a continuance of the favorable prices which have prevailed in the past.

The date crop at Mecca from the government experimental plot has been harvested from trees which were planted last year. These trees are in charge of B. G. Johnson, who has given them care for the past year. These trees were secured from Algeria and the harvesting of these few trees so soon, though it consisted of only thirty dates, gives addedhope of a successful outcome of this experiment.

We Can Save You More Money

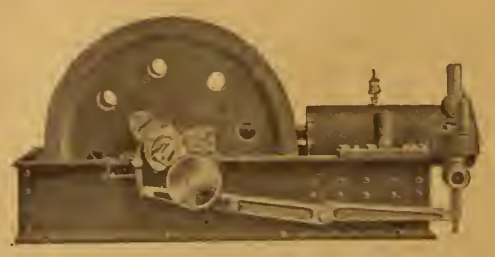
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building Shops and Yards: 860 North Main St.
Phones; Home 2367; Sunset Red 2811 Phones; Home 1088; Sunset Main 1088

When writing advertisers mention Cultivator.

Is It a Success? Will It Stand the Test?



BETTER,

Has It Stood the Test?

IT HAS,

AND IS TODAY A

SUCCESS

Built in California to Stand Hard Work: Simplest, Best, Cheapest.
Write for further information.

M. C. TUNISON, Designer and Builder 717-721 N. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day, Pasadena

PHYSICAL CONDITION OF ORCHARD SOIL.

Cultivation, irrigation, fertilization and physical condition of the soil, rank as the most important factors in successful citrus fruit culture. I believe that we citrus fruit growers are inclined to give less attention to the improvement of the physical condition of the soil of our orchards than almost any other feature of orchard culture.

Soil in good physical condition is that state which is favorable for the action of nature's forces in promotion of plant growth. I can best illustrate what I mean by a soil in proper physical condition by referring to virgin soil that has never been cropped or cultivated by man. The soil of the forest or woodland ranks in physical condition as the nearest to perfection. This soil contains a large amount of organic matter, as decaying wood, leaves and roots. Such a soil is rendered porous by the large amount of humus and vegetable matter which it contains. The soil being porous readily admits the water and air, and the decaying vegetable matter absorbs and holds the water and in the process of fermentation increases the soil temperature. Such a soil, when cleared of forest growth, responds quickly to the demands made upon it in the growing of farm crops. This soil contains a good store of nitrogen in a form to be readily converted into available plant food, but what is of fully as much importance, the soil conditions are such as are favorable for the action of nature's forces or agents in producing the necessary chemical changes of the soil elements that fit them for the use of plant and tree. The favorable conditions of this virgin soil is that it is mellow and friable, with its many well aerated pores that allow the roots of plant and tree to grow unhindered in any and every direction, and to place their absorbing surfaces in vital touch with the soil grains and soil moisture.

* * *

Effect of Cultivation on the Physical Condition.—Cultivation of farm crops, as usually practiced tends to lower the physical condition of the soil. On this point one author says, "Our method of tillage tends inevitably to so alter the texture of surface soil, especially if they are heavy, as to make the spread of young roots through them more difficult and hence thorough stirring for tilth becomes more important than it was in the virgin state. The frequent stirring tends to break down the compound grain structure, so that the action of rains, and of stirring when too wet, causes the soil grains to run together into masses of so close a texture that the young roots find difficulty in making their way among them, and are insufficiently supplied with air, even if they succeed in doing so. Those of us who have been farmers have noticed the improved condition of grass land when broken up and put to another crop. The conditions of soil continually cultivated are the very adverse conditions which we as orchardists have to contend with. As citrus fruit growers we are handicapped in not being able to use the method of rotation of crops. We are forced by constant cultivation alone to maintain our orchard soils in good tilth or physical condition. By cultivation alone we try to pulverise our cemented soils and admit air and water; by these methods we fail to secure the best possible results. We are all convinced that we need more humus and vegetable fiber in our soils. With an increase in the amount of humus and vegetable fiber in our orchard soils we not only increase the supply of available nitrogen, but aerate the soil and increase its water holding capacity, which will result in an improved condition of our citrus trees. We cannot seed down our orchards to grass or resort to a rotation of crops, but we can, by growing green-soiling crops of peas and lupines and plowing them in, add to the present supply of vegetable matter in orchard soils and the decaying roots of the legumes will contribute to the same result.

Stable manure is valuable for the same purpose and it is believed that stable manure is of greater value in improving the physical condition of the soil than for the fertilizing material in it. An excess of stable manure does not improve the quality of the orange and must be used with caution. In many years in general agriculture, clover has been used in a crop rotation system, not only to secure improved physical condition of the soil, but to add to the store of available nitrogen.

All leguminous plants, such as the clovers, beans, peas and lupines add large supplies of nitrogen to the soil in which they grow. One of our most noted agricultural scientists says: "Barnyard manure has marked effect upon the amount and disposition of soil moisture. When coarse manure is plowed under, its first effect is to act as a mulch to unstirred soil by breaking the capillary connection between it and the surface layer."

It is a fact long ago observed that increasing the organic matter in the soil increases its water holding capacity. This being true, it is to be expected that the surface foot would be more moist as a consequence of manuring. But by experimental work and observation it has been found that there was an increased amount of moisture in the three surface feet and that the influence of the manure is felt below the level to which the manure is applied.

Green soiling crops will produce an effect on soil similar to that of manure. A part of the observed difference in the water content of manured and unmanured soils is to be explained by the fact that the rate of surface evaporation is diminished by the application of stable manure. Sawdust and fine shavings from the mills have been used with good results in the improving of the physical condition of soil. Of course this material used has no fertilizing element, but is beneficial in loosening the soil and rendering it capable of absorbing air and water.

An exchange gives a remedy for ants injuring fruit trees, stating that in many sections the pest of ants is very great and is doing much injury. This is probably an entire mistake for injury of trees by the ant is a new feature if it ever occurs at all. The ants are doubtless on the trees seeking the honey dew deposited by the plant lice or aphis. The aphis do much injury, especially to the young tender growth and should be removed by a weak kerosene emulsion or even a spray of water from the hose is sufficient to destroy them. Once they are removed, the ants will disappear.

Some considerable interest has been manifested in California papers by accounts of the working of a new orange wrapping machine which has been tested in Riverside. It is claimed that wraps are much more rapidly placed on the fruit than can possibly be done by hand; also that work is uniformly and perfectly done. If this can be done without adding to the already serious line of injuries which are often given to fruits in packing, it may prove a great labor saver, but the idea advanced by many, that labor-saving machinery has been the cause of rapid increase in the percentage of decay, may have some foundation, in fact. However, that is a question which the managers of packing houses will probably look into and if found a success will add to the economy so necessary in placing our oranges in marketable condition. This does not dispense with the packer by any means, but, instead of wrapping the packer will simply place the fruit in boxes ready wrapped.

SHORT EUROPEAN ORANGE CROP.

Reports from Europe indicate that the crop of oranges the coming year will be exceedingly short. Some estimates make the claim that the output will not be more than twenty-five per cent of the average.

In the Sacramento Union we note that the orange growers of the south of Europe have been further troubled by the appearance of an insect known as chrysomphalus minor, which, they say, is an importation from America. The destructive tendencies of this insect have been intensified by European air and very many of the trees are dying. The chrysomphalus is said to attack not only orange trees, but also lemons, magnolias, camelias, palms and laurels.

Imperial valley has made a number of experiments in tomato planting this year and the Press refers to the work of a farmer near Holtville who did exceedingly well with some early tomatoes at very high prices.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

When writing advertisers mention Cultivator.

Gold Medal
TREES
Our trees won Gold Medals at St. Louis, Buffalo Pan American and World's Fair at Chicago. Trees true to name. Strong and healthy in every way. We are ready to figure on any quantity and figure close on good stock.
San Dimas
Citrus Nurseries
R. M. TEAGUE, Prop.
SAN DIMAS, CAL.

When writing advertisers mention Cultivator.

The T. J. Rogers Fumigating Co.
FUMIGATORS and SPRAYERS
With years of practical experience and employing only competent men we are prepared to do first-class work at reasonable prices. Correspondence solicited. Best of references.
Address: South Pasadena, Cal.
Refer to Advertising Manager Cultivator.

HOEGEE'S
Khaki Suits
To Order
ALSO CANVAS, DUCK, CORDUROY AND LEATHER.
Laced Boots, Leggins
Hammocks FINEST LINE In CALIFORNIA
BIG, BROAD-GAUGED, HANDSOME
Tents
All Kinds—Camping, Mining, Living, Lemon, Fumigating.
IRRIGATING HOSE
WRITE FOR CATALOGUES
THE WM. H. HOEGEE CO.
Incorporated
Phones: Exchanges 87.
138-142 So. Main St., Los Angeles

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

CARE OF FERNS.

Of the thousands of ferns found throughout the world, only about a score are very generally grown. Some grow in water, some in the driest of soils, and some thrive only in the saturated atmosphere of the tropics. Several of the most desirable will not endure a slight draught of air and can only be successfully grown in Wardian cases, and a hundred reasons might be given why we cannot grow all ferns with the care ordinarily given pot plants.

Soil is not of the first importance, though if proper soil is present, better results will be obtained, and the or no sunshine, but need plenty of light.

For garden planting the common sword fern is very satisfactory as it does not droop and get its fronds dirty, but for pot or hanging basket the variety known as the Boston fern is the more popular, and for small pots nothing is more desirable than the neat little cordata compacta. Among the ferns having a typical fern leaf none will give better satisfaction in house or garden than Pteris tremula, though it is too rank in growth for small pots. Several maidenhairs are used as pot plants but are not so satisfactory as the others mentioned. A. cuneatum is the best, will stand con-

The Boston Fern

The Best Maidenhair. Adiantum cuneatum.

care of the plants much simplified. One-half garden loam, one-quarter sand, and the balance of leaf mold will make an ideal soil for the ordinary ferns. Watering must be most thoroughly done about twice each week. The safest and best system is to stand the pots in a vessel of water until the water has thoroughly soaked all the soil. This stage can be told by the soil showing dampness on top. If the soil and drainage are good this will consume but a few minutes time. When ferns are in good, healthy growth they should have an occasional feed of fertilizer They require little siderable abuse and neglect.

Many people include among the ferns the several species of asparagus, and one of them, known as the asparagus fern, requires a similar treatment. Asparagus Sprengeri, the most enduring of all, is a gross feeder and is perennially thirsty. It must also be shifted into a larger pot once each year or have a change of soil every six months; this to be supplemented with liberal fertilizing.

DRAPERY OF THE VINE.

Vines have a most important mission to perform in the decoration of the house, and no dwelling, even of the most beautiful architecture, is complete without their graceful drapery. They give an artistic touch that nothing else can supply, whether it be a cabin or a mansion. Train a rapidly growing vine over bare walls and it transforms the most unpretentious of dwellings into a thing of beauty, and when trained around sunny porches the vines not only beautify, but add much of comfort to the home in summer.

Vines are of little trouble after they are planted, will live forever, and though some of the prettiest climbers will be found in the foliage class, many of them have flowers that are conspicuously beautiful.

LIVE OAKS FOR STREETS.

It is much to be regretted that a few people have so hastily passed judgment on the live oak without giving it a fair trial. A single year's growth is not a fair test with any tree or plant. It is a curious fact that the live oak usually requires a year in which to get started, and oftentimes does not make a single inch of top growth—The next year it may grow ten feet. We have heard of this tree making ten feet of growth in a single year—we know of one at South Pasadena, in the grounds of Mr. H. A. Perkins, that has grown six feet from an acorn in twelve months.

The growth of the live oaks along Pasadena avenue, Highland Park, during the past year (its first year) has been good—all that was expected of it. A pioneer in tree planting, and one of our most prominent men, Mr. F. Q. Story, of Alhambra, says that he has observed that under favorable conditions the live oak makes just as satisfactory growth as the average tree used for street planting.

FUCHSIAS.

Few of the more common garden plants conno to all countries arrive at greater perfection in California than the fuchsias. This statement perhaps needs tempering with "where proper soil, care, etc., is given them." In Northern and North Central California they thrive more universally than in the southern part of the State, where the lack of humidity relegates them to the north or east side of the house.

Fuchsias are very variable in size and habit; one in New Zealand forms a tree 30 to 40 feet high, while F. procumbens from the same country and common in this State, is a trailing plant but a few inches high. The fuchsias we usually grow might be termed herbaceous shrubs. Some species have been grown for hundreds of years and the flowers and foliage vary greatly in appearance. Added to this the horticulturist has, by crossing, produced an endless variety of forms.

After we have settled down to a healthy garden taste, when we are through pampering weakly exotics that we cannot grow, fuchsias will be more commonly grown and appreciated on the Pacific coast. They are among the easiest of plants as regards culture, and their ultimate size is largely in the hands of the grower; they may be shrubs of a few feet, or they may "go on a rampage" to the roof of a building. Any garden soil seems suitable and the most ordinary experimenter may propagate them either from seed or cuttings. When buying plants from the nursery, aim to get the young, soft-wooded ones rather than those a year or more old. When thoroughly established in the garden, they may occasionally be fertilized, but if the soil is already fairly rich in plant food, they are not very responsive. When one considers how little care they require, compared with the results usually obtained, it is a wonder they are not found in every garden.

LIQUID MANURE.

The best all round liquid fertilizer can be made from cow manure. Make the liquid in a barrel or tank, and when drawing it off dilute to about the color of weak coffee and apply once every five or six days, according to the needs of the plants. This will do both for roses and carnations. If the cow manure is not obtainable, sheep manure will suffice, or ordinary stable manure. If sheep manure is used, care must be taken against using it too strong or more harm than good will result. In feeding with liquid, it is well to know that a weak solution applied often is better than stronger ones given at longer intervals.

When it is desired to give lime in any form, either sprinkle the lime over the surface of the bed, to be washed into the soil with the watering or make a barrel of lime water, and use it on the beds, clear. There is no danger of getting the lime water too strong, as the water will only absorb a certain per centage of the lime. Soot is good to be used when growing decorative plants, as it helps in furnishing good color to the foliage; but for roses and carnations it is not a necessity.

Roots need moisture these hot days.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino
When writing advertisers mention Cultivator.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.
When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

THE WANDERINGS OF ALFALFA.

Talk about blue blood; that would be a proud member of the Four Hundred who could trace his lineage back as far as can a certain cousin to the clovers that may occasionally be picked on our lawns and vacant lots and by the roadside. This scion of an ancient race is alfalfa, which is cloverlike in foliage and flower, but the blossoms are blue. Twenty-five centuries and more ago, when Athens was the hub of the universe and all the outer world was considered barbarian by the Greeks, alfalfa dwelt unostentatiously in the valleys of that part of Western Asia inhabited by the Medes and Persians. When the wars arose between those people and the Grecians, and Darius made his famous expeditions into Greece, our little plant appears to have gone along. Perhaps its seeds were transported by accident in the camp baggage of the Persian hordes, or possibly some enterprising Greek prisoner escaping from Media, brought seeds home with him and established the culture of the plant in his native country. At any rate, into Greece it came about five centuries before Christ, and doubtless helped to make Alexander's charger Bucephalus the horse he was. When Greece became absorbed into the Roman Empire, alfalfa won the favor of the conquerors. who cultivated it extensively for fodder, for their army horses, and introduced its culture into Italy. The poet Virgil mentions the plant in the Georgics under the name of Medica—a word which in spite of its looks has nothing etymologically to do with medicine, but simply means the herb from Media.

From Italy its culture spread northward into Middle Europe, and westward into Spain. It was in the latter country that the name alfalfa, an Arabic term, became attached to it, indicating that it was under cultivation in the Spanish peninsula at the time of the Moorish occupation.

When Spain extended her sovereignty across the Aatlantic a new world was opened for alfalfa to conquer, and it made good use of the opportunity, establishing itself as a blessing in the bloody trail of devastation which the Spanish inquistadors of the sixteenth century left behind them in Mexico and Peru. In arid regions, where no succulent grass would grow, and where clover would wither away, the alfalfa was sown, and by reason of its great length of root, which enables it to draw moisture from a great depth, flourished and increased. Down the South American coast it made its way as far as Chile, and from that country it was brought to California a few years after the admission of the Golden State to the Union. Thence its fame as a valuable hay plant possible of growth in the dry lands traveled throughout the West, until now it is the staple fodder crop on the Pacific Coast and in the Rocky Mountain region, from Montana to the Gulf of Mexico. It will soon be a staple all over the East as it has become already in many sections.

Easy Foote—De more a man does de more he's capable uv doin', Dusty Drowse (shuddering)—Yes; one crime leads to anudder.—Judge.

Far beyond the smiling skies,
Little toils thous didst not shun,
These are treasures that shall rise.

OPPOSITION TO PARCELS POST.

Antiquated business methods die hard. The local merchant who charges excessive prices for his wares, believes the trade of the farmers and other people of his vicinity belongs to him and bitterly resents their going elsewhere to make purchases, even at much lower prices, is stoutly resisting the tendency of the times. Merchants of this type must sooner or later yield to the inevitable; but they are still numerous, and the desperation with which they fight for the old-time privilege of exploiting their customers puts them more "in evidence" than ever. Merchants of this class are perpetually grumbling about the "catalogue houses," as they call the firms which do a mail order business in merchandise. They are organizing under various guises to fight the mail order business and, because they think it will increase that traffic, to oppose the parcels post. They are enlisting in this war many of the newspapers which depend upon them for advertising patronage. The war is even extended to their recreant customers who are not only visited with their displeasure because they have been "disloyal" enough to buy goods from mail order houses, but threatened with more severe treatment.

The truth is that the war against the mail order houses and the parcels post is against the interests of the farmers; and if the farmers make their influence felt in public affairs, notwithstanding the selfish interests of the express companies, which charge excessive prices for service much less satisfactory than that of the postoffice department. The mail order business is here to stay and will grow to vaster and vaster proportions, with or without the parcels post. The local merchant will always be with us, but will be required to meet existing conditions, accept smaller profits and do a larger volume of business. If he is wise, he will go into the mail order business himself wherever practicable and give up a needless struggle against changed conditions. The parcels post is right and the people should insist upon its adoption without needless delay.—Homestead.

CARE OF TOMATO VINES.

My experience has taught me that in order to grow a good, large tomato, proper care must be given the vine. Of course it is necessary to set the plants in fertile soil, but this is not all. The vine must be kept pruned and off the ground.

I find the best plan for keeping the vines from falling over is to drive a strong stake down beside each plant when it is about 1 foot high, and tie the vine to it with a heavy string. As the plant grows, tie another string a few inches above the first and so on. Always keep the little suckers, that come out at the juncture of the leaves and stalk, pinched away. They will rob the vine of the life that should go into the tomatoes. It is often beneficial to cut the lower leaves away, for they decay and hold unnecessary moisture.

Decaying vegetation and dampness cause the young tomatoes to rot. It is a good plan to mulch the vines with straw or grass. One year I pursued the staking and pruning plan with 25 or 30 vines. The tomatoes grew extra large, were well-formed and firm, and ripened early and evenly. I raised enough for my family to use during the summer, had plenty for canning purposes, and sold several bushels.—O. J. Farmer.

LOW PRICE FOR POTATOES.

Texas potato growers are in a hard way because of exceedingly low prices of potatoes. With mistaken ideas as to the price for this year's crop, plantings were exceedingly large and the freight rate rather high, which has put the poorer potato grower almost out of business. The railroads have now conceded an emergency rate but the added handicap of low northern markets still has serious effect upon the local condition. At Denison it is claimed that no price what ever could be offered for the spuds which would justify shipping under present conditions.

The potato is a native of the elevated regions of Chile, Peru and Mexico, but it is now one of the most widely cultivated and valuable esculent tubers. The ideal soil for the potato is one that is well pulverized, light, rich, cool and moist. Where the soil tends to pack and run together after an irrigation, as is frequently the case in flooding, it is of more importance to have the potatoes in a light and loose loam. Again, the potato thrives in a relatively cool climate, or during cool weather in the warmer sections. As a matter of fact, the best potato growing sections, as a rule, are in the elevated valleys where it is naturally cooler, or in the mountainous districts.—Fabian Garcia.

Some study shows the need for more.

Sievert Oil Burners

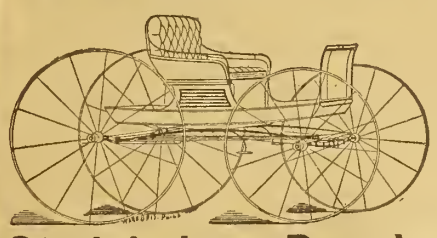
Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

When You Buy a Buggy

BUY THE BEST



FOR APPEARANCE
FOR COMFORT
FOR DURABILITY
FOR YOURSELF AND
FOR THE FAMILY

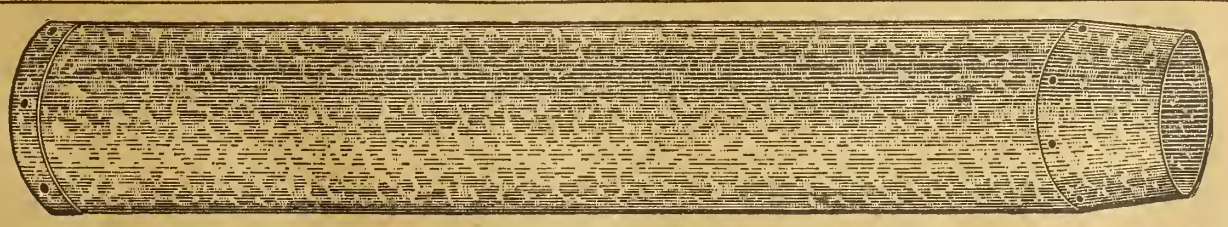
Studebaker Buggies Head the List

All parts are made from the best material by skilled workmen who have spent years at their trades. Nothing is slighted; nothing is poorly done. They are the best buggies in the world. An investment in a STUDEBAKER will bring a big return in satisfaction and comfort for years. We are general agents in this territory.

NEWELL MATHEWS CO. 200 N. LOS ANGELES ST. LOS ANGELES, CAL.

Our Catalogue is sent FREE upon request.

When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** *WRITE FOR CATALOGUE*

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 **DOLGEVILLE, CAL.** The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR
AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, July 14, 1905

CONTENTS.

	Page.
Pajaro Valley Apples	27
Summer Pruning	28
Honey Produced in California	29
Grape Vine Flea Beetle	30
Physical Condition Soil	31
Care of Ferns	32
Wanderings of Alfalfa	33
Editorial	34
Coast Notes	35
Feeding Fat Into Milk	36
Be Gentle With Cows	37
Cow for the Farmer	38
Veterinary	38
Grit (Poultry)	39
Editor's Question Box	40
Summer Hatching	41
Queries and Suggestions	43
Household	44, 45
Markets	46, 47
Climate and Crop	47

Thomas Lawson's Remedy.—The author of the famous articles on "Frenzied Finance," which have stirred this country and Europe, in the past few months, as they have not been stirred in any previous time, lectured this week at Kansas City before a Chautauqua assembly. After recapitulating the ideas and charges heretofore advanced, Mr. Lawson made bold to assert that the only remedy left to the people, to curb the greed of the money power, is to sell back to it the stocks and bonds bought of it, and hereafter keep out of the market of the Standard Oil propositions. By so doing, he thinks, the money magnates will be driven out of business, and the money which they have stolen will find its way back into the pockets of the people. We do not agree with him in his declaration that "there is nothing in municipal ownership of public utilities." Experience along this line demonstrates that there is much in public owuership, aud the fact that private corporations can afford to offer such enormous sums over the cost of creating these utilities, is proof that there is great profit in stocks of these propositions. We do not find the cities owning public utilities anxious to dispose of them. They have proven profitable, as well as affording cheaper rates in gas aud water to the people. So long as they do this they are valuable and desirable both from a public and individual point.

Of course, Mr. Lawson is an extremist, but his articles and his lectures will serve to draw the attention of the country to the danger which threatens it from the overwhelming ambition of a few men to control the finances of the nation and of Europe. He takes no stock in laws Congress may enact, for he thinks its members remain under the thumb of half a dozen money magnates who will not permit statutes to be passed which will tend to curb their possibilities to still farther amass wealth.

Here again Mr. Lawson is wrong—as we believe. The country has made up its mind that the trusts and combinations must let go their grip on the people, and if the members composing the two branches of Congress are too weak to stand by the President in his demand for a fairer deal in business matters, they will be left at home and men will be selected as the people's representatives who have the manhood to vote for those laws which insure a "square deal" to every man in business.

The issue is drawn and the people will not be trifled with any longer.

* * *

Our State's Independence.—The people who reside in California, and have watched its growth in population, and its development in resources, are proud to note that the financial condition of the State is now a cause for congratulation.

Within the past month school bonds and sewer bonds to the amount of about two million dollars have sold at a premium and have been purchased by banks in this State.

These investments are the best possible proof of the faith Californians have in their State. They show, too, that our monied men see the advantage of keeping money at home, and paying interest at home. Heretofore money has gone out of the State by millions upon millions. Now we have reaches a point where we can save this interest instead of sending it east. We have paid to eastern bondholders in the past many millions of dollars. Had the State not been enormously rich in itself, this drain would have bankrupted it. We have paid interest on railroad bonds, municipal, county, school, irrigation bonds, and goodness knows what other bonds we haven't paid interest on, and yet, in the face of this constant drain the State has continued to develop and prosper, until today we are in a position to purchase our own bonds and bidders will pay a premium for them.

This general investment of California capital in California securities marks the opening of a new era in the State's development. Like all new countries it has been more or less dependent financially on older communities, where wealth has accumulated. Now it is fast showing its ability to stand alone. With the greatest financial institutions of the country actively bidding, California bankers are finding it worth while to make the best offers for California securities.

There are few States of the age of ours which have reached this stage of financial independence. Certainly none have shown greater faith in the future of the Commonwealth. It is indeed a proud position to reach, when we can say to the eastern purchaser of bonds, "you must outbid our own bankers or we will sell at home." All hail our grand young commonwealth!

* * *

Value of Pumping Plants.—If cotton is king in the South, water is king in California. Ever since citrus growers and farmers in general began the work of cultivating the soil they have learned that the desert, in California, may be made as productive as the richest loam of Kansas or Iowa by the proper application of water. Time was when the orchardists depended upon the surface streams and springs to supply his demand, but it soon became apparent that these sources of supply would be indaequate, and resort must be made to pumping plants to command the water needed for the life and prosperity of the orchard.

By the improvement and final perfection of pumping machinery and the assurance of cheap fuel through the discovery of oil in the State, a wonderful stimulus has been given to agricultural undertakings, and lands which before the introduction of pumping plants were practically useless, have become of immense value and readily find purchasers.

Under the decision of the Supreme Court of this State, in the well known case of Kato vs. Wilkinshaw, and in other cases as well, it has been decided that water can be appropriated from running streams, or percolating streams, in sufficient quantities for the necessity of the land owner, who has only to apply the necessary machinery to draw from the ground the water he may need.

This doctrine is well settled and should be remembered by investors who can, by the use of pumping plants make their lands as fertile as those adjoining the Mississippi river. When it is taken into consideration that by expending a few hundred dollars in sinking a well, and installing a plant, the value of the land so irrigated, is enhanced to four times its original value, the wisdom of the undertaking from a financial point of view is apparent. Indeed the time has come when every ten acres of land under cultivation should have an irrigating plant of its own, so that it may be independent of the complications or whims of irrigating companies. No owner of land need fear that the water beneath him will be denied his use, so long as he confines it to reasonable application of the soil, but he should remember the finding of the Supreme Court, to the effect that he can take from his land only so much water as shall be necessary for his own use without injuring prior appropriators and overlying land owners. He can not supply irrigating companies with water drawn from his own land if thereby he works an injury to overlying property. This is the only doctrine to keep in mind, and at the same time, applying always the rule of trespass.

The new settlers in the State will be interested in knowing these well defined doctrines, for they are usuallly an enterprising class of men who are anxious to improve their purchases and who realize, in a brief period of residence the living necessity of securing water of their own to secure the best agricultural results, as well as the rapid enhancement of their lands.

* * *

Clean Fairs.—The season for district and State fairs is now at hand. The Cultivator wants to utter a suggestion early in regard to making them clean of objectionable exhibitions. There has been an improvement iu this direction during the past few years, but there is room for still greater improvement.

The managers of the district fairs, as well as the State fair, have been at work for some time, planning for this season's exhibition. Their policies are outlined, doubtless, and it may be nothing we can suggest will influence them in changing their plans. However, the Cultivator will say, that to eliminate objectionable side shows, fakes and gambling devices, will add greatly to the character of the fairs, as well as to the credit of the managers.

A contemporary makes this point, in connection with clean fairs: "If the farmers will take it upon themselves to stamp out fake schemes instituted for no other purpose than to get their money, they can easily do so. They can do this in a single season, if they choose to. The farmers are the backbone of the fairs, and if they absolutely refuse to patronize questionable side shows for one season, it is not likely that such institutions will put in an appearance the following year, as they are not in the business for pleasure, but for profit."

Farmers can not exert the same influence in State fairs that they can in district fairs, but they can refuse to patronize the objectionable shows in the State fairs and thus set the seal of condemnation upon them.

Secertary Wilson, in speaking upon the financial success of fairs, said truly: "There are two sides to everything. At least that is a statement often made. There are two sides to the fair question—a financial side and an educational side. The financial side has always been put first and that is right. Unless a fair can be made a financial success it cannot exist. This is the very question that confronts fair managers. They must offer premiums for the best farm products, vegetable and animal, or nobody will go to the expense of putting products on exhibition. They must maintain grounds, buildings and other property for show purposes, and everything costs money. That money must come from those for whom the fair is held—the general public and more particularly the farming public. If the farmers are not willing to "lay down the shovel and the hoe" for a day or two and visit the fair, the managers must get revenue from some other source, hence the introduction of the side shows. Good, clean, educational sideshows are not objected to when their introduction is absolutely necessary. Gambling devices of all kinds should be prohibited. Let the farmers demand it, let the exhibitors enter their exhibits only on the condition that a clean show is guaranteed and let every farmer turn out and patronize his State and county fair. If the farmers would all attend as they should, there would be no trouble about making any State or county fair a financial success." The Cultivator's advice to the farmer's of this State is to turn out to the district and State fairs this year, and show the interest due the managers, as well as learn something from the things exhibited.

HOT WEATHER INJURES PLUMS.

Some of the river districts in the San Joaquin and Sacramento valleys report "cooked" plums in many of the orchards. Some of this is so serious as to unfit the fruit for shipping, but the weather having moderated at this time, it is hoped that damage will be less than at one time feared.

If you suspect a man, don't employ him; if you employ him, don't suspect him.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The Gridley cannery will open up this week for a month's run.

A small crop but an excellent product is the report of the raisin crop around Fresno.

The first crate of Fontainebleau grapes for the season was shipped from Vacaville on July 4th.

The directors of the Zante Citrus Association of Tulare county, have let the contract for enlarging their packing house.

Fair prices are being received from consignments of fruit now being forwarded from Sacramento and other northern points.

From the seventeen acres planted only last year the first date crop was recently gathered. While it comprised only thirty dates it marks an epoch for Mecca.

The addition to the Porterville Citrus Association's packing house is about completed, only the shingling and some minor details remaining to be completed.

Shasta county reports are to the effect that the grape crop has been practically ruined by grasshoppers which eat all the leaves from the vines and leave the grapes to be spoiled by the scorching sun.

The Colton Fruit Exchange is winding up a prosperous year, the total amount paid during the season up to date to the members being over $150,000, a sum considerably larger than that of former years.

The hot weather of last week has ripened up the deciduous fruits of the northern portion of the State quite rapidly and in some sections grape and berry crops were materially injured by the long and excessive heat.

Toluca and San Fernando peach growers are freely contracting their fruit with canners at the rate of $31 for 2¼ size clings, and $18 for the undersizes. Freestones are commanding $20 for 2¼ size and $13 for those under that size.

The Earl Fruit company last week shipped two train loads of eight cars each of green fruits from Sacramento to the London market. On arriving at New York the fruit will be transferred by lighter to ocean vessels and will be laid down in London within six days.

Under date of July 7, Geo. B. Katzenstein, manager for the Earl Fruit company, gave the Sacramento Union a splendid showing for the green fruit situation of the northern portion of the State. To June 30th there had been shipped 1181 cars of cherries, apricots, peaches, plums, pears and apples, as against 518 cars for 1904 and 788 cars for 1903.

The California Citrus Union reports to us that it received, in Redlands, 20,012,070 pounds of Navel oranges, for which it paid to the growers $235,373.29. This is very close to $1.18 per 100 pounds, or counting 70 pounds to the box, is 82 1-3 cents a box. This counts everything that was packed and the culls besides. That is to say, that every one hundred pounds of oranges delivered at the packing house, including worthless culls which were thrown away, brought to the grower very close to $1.18. That is not a bad showing, by any means.—Redlands Citrograph.

LIVE STOCK.

A creamery is being planned at Coachella, to be erected this fall.

The Santa Rita creamery located near Pleasanton, was totally destroyed by fire July 5th.

Stock raisers in the Imperial valley are clamoring for the appointment of a live stock inspector.

The Colbrook creamery at Loleta, Humboldt county, is said to be doing a fine business this season.

A new refrigerating system has been installed in the Model Creamery company's plant at San Jose.

A small creamery plant has been established by Reise & Co., on their ranch in Contra Costa county.

A company with a capital stock of $25,000 has been formed at Berkeley by Messrs. Coulter, Reed and others under the name of the Varsity Creamery Co.

The Raab Creamery company of South Pasadena, which has leased the Kings County creamery at Hanford, is turning out about 2000 pounds of butter daily at the last named place.

The creamery at Traver, Tulare county, is manufacturing about 700 pounds of butter daily, which is shipped to Los Angeles and Pasadena, as better prices are received there than elsewhere.

The Board of Directors of the Pacific Coast Trotting Horse Breeders' Association, at a meeting held in San Francisco recently, decided to hold the next race meeting at Santa Rosa, commencing August 18th.

A farmer, J. D. Vannoy, who is engaged in farming near Traver, states he is now milking thirty-five cows, the product averaging one hundred gallons daily. His returns are $150 per month and expenses but $50.

After a campaign of several months duration applying the tuberculosis test to all cows whose milk is sold in Palo Alto the board of health now announces it has completely banished tuberculosis from all herds that contribute milk to the inhabitants of that city.

Rincon now has not only a new cheese factory, but a skimming station as well, and the dairying industry ought to flourish there. A Los Angeles man has bought the old Richenberger cheese factory and opened it up as a skimming station, shipping the cream to Los Angeles. The Alter cheese factory is now in full operation, and the milk supply is about evenly divided between the two plants, with considerable rivalry for the big end of it.—Chino Champion.

After holding out for three days for a better price than was offered by the buyers the wool growers gave in and sold their crop for 27 cents, says the Ukiah Democrat. The buyers combination proved the most effective. In the warehouse there were 315,000 pounds of wool, the largest amount ever brought to Ukiah on wool sale day. At 27 cents this brought $85,050; while at 30 cents it would have brought $94,500, or $9450 more into the pockets of the growers. This sum was lost to the ninety wool sellers who have yet to learn the value of combination. The amount was an average of $100 per grower, yet one of the principal reasons anyone of the growers advance for selling at the figure he did is that he did not want to remain in town under expenses any longer.

AGRICULTURE.

The Imperial Press claims that there are more than 300,000 acres of land in the Imperial valley adapted to the production of sugar beets.

An almost total failure of the tomato crop around Fresno has been caused by the inroads of the tomato wilt, a disease seemingly beyond control.

The San Jacinto Register notes the cutting of three tons of alfalfa to the acre by one of its subscribers living on the mesa west of town. It was cut from alfalfa planted last season.

Melons are not the only product of Brawley if the item about Wm. Farr shipping in three car loads of hogs from his ranch and the further intention expressed as to bringing in 1400 head of cattle to fatten this fall is correct.

Dave Hickman has 30 acres of his 40-acre tract, two miles southwest of Orosi, seeded to alfalfa, says the Orosi Offer. He has lately harvested the second crop, the yield being 55 tons, which he sold in the shock at $4.50 per ton. This alfalfa was seeded one year last March.

The work of locating Luther Burbank's thornless cactus, and establishing the plant in the State as a forage for stock, will be undertaken by the United States Agricultural Department. David Griffith, assistant agrostologist from the range investigation division of plant industry, will confer with the authorities of the University of California about the work. He has instructions to begin the work of locating the smooth cactus plant, and will begin experiments immediately. Several places suitable for the project are already under consideration. The most notable of these are Yuma, Mecca, Santa Monica and Chico.

MISCELLANEOUS.

Work on the Oroville and Chico electric railroad will begin within the next thirty days.

A fierce forest fire destroyed several thousand acres of feed near the mouth of the Kern river canyon one day last week.

From many parts of the State come the report that the cold, backward spring will very materially lessen the output of honey.

A quarter page advertisement in a local paper calling for help to work in the cannery indicate a busy season for the Visalia cannery.

George Blackburn, superintendent of the Hopkins ranch near Healdsburg, says 1500 cords of tan bark will be shipped from the ranch this season.

The extension of the narrow gauge railroad on the Buena Vista side of the Salinas river will be ready for the shipment of produce on the 24th of July, so it is announced.

A correspondent of the Porterville Enterprise calls attention to the necessity of saving the grand old valley oaks that dot the landscape. Save them all where possible; they can never be replaced and are worth a hundred times their wood value to the country.

According to the Willits News, a woolen mill will soon be established at that place. J. S. Parker, of the Parker-Thwaite company, of Ohio, is the gentleman who is planning the mill. Beyond the matter of location the plans are not as yet made public.

The Board of Supervisors of Sacramento county granted a franchise last week for an electric line down the Riverside road leading out of Sacramento. It is the intention to extend the road into the great fruit-growing district south of Sacramento, running both passenger and freight trains.

The Hanford Journal says H. W. Roller, of Crowley, Louisiana, is investigating the feasibility of rice culture down in the lake country. A half car load of rice was shipped in, of which a large portion was planted and everything looks favorable for the enterprise.

Under the recently completed irrigation canal the Gridley colony, located two and one-half miles southeast of Gridley, is being rapidly improved. The company has sold to twenty-eight families from three to forty acres each and six dwellings are already erected while a number of others are under construction.

The wool growers about Ukiah are many of them holding for full thirty cents per pound for their wool, while others have sold as low as twenty-seven cents. Even at that price, the wool people will probably net a very nice income from this year's product, but, if thirty cents is the going price for the bulk of the crop, the ordinary producer should stick for his full price and aid his neighbors in securing it also.

The call is issued for the sixteenth annual session of the Trans-Mississippi Commercial Congress, to be held at Portland, Oregon, August 16th to 19th. At the coming session there will be the usual topics affecting rivers and harbors, internal improvements, trade relations with the Orient, irrigation and reclamation of arid lands, good roads, forestry, mines and mining and other subjects of vast interest to the Western States.

The deal which has been pending for some time by which the Associated Oil and Standard Oil companies were to purchase the oil wells and pipe lines of the Coalinga Oil and Transportation company, has been closed. The Coalinga Oil and Transportation company was a disturbing factor in the plans of the combine to regulate prices. That is why it was bought out. The Coalinga company owned valuable wells in the San Joaquin valley. It found it could not get a proper tank-car service from the Southern Pacific so as to market its product. Accordingly it spent $800,000 building a pipe line from its wells to tidewater at Monterey."

C. H. SESSIONS, ASSOCIATE EDITOR

FEEDING FAT INTO MILK.

Responding to the popular impression that a rich food will give a milk rich in butterfat, the Farmer's Tribune says:

"We are probably not far from the truth when we state that 90 farmers out of every hundred believe that they can produce rich or poor milk at will from the same cows. Just why this idea has become general, we are unable to say. As a general rule, wherever there is smoke, there is also fire. In other words, a belief that is so general as this one is, namely, that the quality of the feed influences the quality of the milk, has something substantial back of it. This question, however, seems to be an exception to the general rule. Our correspondent may rest assured that he can not to any extent influence the quality of his herd milk. He can increase the quantity by feeding a balanced ration and by giving the cows first class attention in every respect, but he can not increase the quality thereof. At least, such are the conclusions of the experiment stations throughout the United States, as well as in foreign countries, and this question has been tested a great many times at a great many different places under all sorts of conditions. While this doctrine has been preached for years by investigators, their conclusions have had very little effect in changing the public mind on this question. It has been claimed that the reason why the experiment stations did not find that food affects the composition of milk with respect to its fat content was because these stations always experiment with cows under ideal conditions and that, therefore, their conclusions could not be applicable to the average farmer's cow, which is not kept under the most favorable conditions.

For this reason it occurred to the New York (Cornell) station that they would try the experiment on a poorly fed herd and try it on an ordinary farm. This was done, and Wing and Foord of Cornell, who had this work in charge, came to the conclusion, sometime ago, that the fat content of the milk, while they did succeed in increasing it by .25 to one per cent, could not be said to be materially affected by the quality of the food fed. A herd of ten cows was included in this experiment. This herd had practically been starved for years, as the dairyman to whom they belonged was very careless and somewhat short-sighted, in that he did not believe in feeding his cows more than was absolutely necessary to keep them alive. When the station took hold of this herd, the amount of feed was gradually increased until the cows consumed as much of a well balanced ration as they could eat. The total amount of milk produced by this herd was increased in the course of two years by 50 per cent, but the fat content, as stated, was increased only .25 to one per cent. This experiment is the only one we know of that has even showed this much of an increase in the fat content of milk due to the feeding.

The way for our correspondent to increase the amount of fat is to make his cows give more milk and thereby indirectly increase the number of pounds of butter fat. The fact that the fat content of milk can not be increased is one of the strongest arguments in favor of testing a cow's milk before purchasing. Never purchase a cow that gives milk too poor in butter fat to make her profitable for the particular line of dairy work she is expected to do. This does not mean that all dairy cows must necessarily give rich milk."

VALUE IN CONSTANT HABITS IN MILKING.

"It is important how often the cow is milked daily. Some experiments concerning this question have been tried, which show that the more times a day a cow is milked the more and richer the milk she yields. But whether one milks three times or only twice a day, the intervals between the milkings must, as far as possible, be of the same length. The cow is in a very high degree dependent upon habit, and her udder works evenly and regularly. The milking hours, therefore, must be carefully observed, and the same persons must every time, in the same course, milk the same animal. If the milking is begun to late, the cow becomes uneasy, and the tension of the udder causes pain to the animal—in both cases loss of milk ensues. The fact that the quantity of the milk is lessened by milking less frequently and less energetically is a thing of which one avails one's self when wanting to dry a cow. But even in this case it is a bad plan to clean strip the udder; it is by far preferable to milk less often, finally only once every other day, every third day, or more seldom still, till the cow gives so little milk that the milking might be dispensed with altogether. During the biesting period it must be considered not only wrong, but even dangerous often, and hard to milk such cows which show any disposition for milk fever. According to examinations made by a famous Danish veterinary surgeon, this disease is caused by an increased activity in the udder, which must be considered still further increased by energetic milking. But for these two periods, when the cow is being dried and when she gives biestings (first milk), she can scarcely be milked too hard (that is, too often and too energetically.).

"The milker must pay great attention to the cleanly condition of the udder and the teats. If he observes knots or tenderness in the udder, sores on the teats, the milk canal stopped up, or the milk having an unnatural appearance, etc., he must at once tell the foreman. Diseases in udders and teats often being contagious, cows in that way infected must always be milked last, and the milk from the affected part of the udder be put in a special vessel and destroyed, in order to hinder further spreading of the infection. The milk canal in the teat is sometimes very tight (being what is often called hard milked) or often shows an inclination to get stopped up.

"To use a straw, or such like, to widen and 'cleanse' the canal is a very bad policy, because in that way inflamation of the corresponding part of the udder might easily follow. A teat which has a stopped milk canal must first be carefully worked or kneaded between the palms of the hands and then carefully milked clear. A heifer is often sensitive for the milking manipulation, and this sensitiveness will sometimes last until she gets older; in this case, the milker must be still more kind and careful at the milking; and means of restraint or force must be used only in case of great necessity."

A man thinks he knows, but a woman knows better.

Even an electric button won't accomplish much unless it is pushed.

Keep pure water before stock.

DOKE STOCK FOOD COMPANY
MANUFACTURERS OF
DOKE'S STOCK AND EGG FOODS
2810 CENTRAL AVE. - LOS ANGELES
Finest Food on the market for Stock
Best Egg Producer and Keeps Poultry Healthy
Greatest Invigorator known for Thin Horses
ASK YOUR LOCAL DEALER FOR IT
When writing advertisers mention Cultivator.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. W. C. MARBLE, Secretary. J. E. FISHBURN
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

Riverside Herd of Holsteins
CALIFORNIA'S FINEST
Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.
PIERCE LAND AND STOCK CO.
RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON
884 James Flood Bldg., San Francisco
When writing advertisers mention Cultivator.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE **DE LAVAL SEPARATORS**
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle
When writing advertisers mention Cultivator.

A good dairyman knows his business. He does not chance to have good cows. It is with him a business proposition and he fully understands the necessity of good blood linked together with good feed and care, and also knows the necessity of rearing the heifer calves in such a way that they will be profitable producers. With care and feed there is nothing to hinder the business dairyman from being master of the situation and having conditions favorable to his ambitions. —Farmers' Tribune.

There is a horse for every three persons in the United States.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.
JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
BUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

J. A. CAMPBELL C. W. CAMPBELL
La Palma Stock Farm
We now have some of the very finest registered Poland China pigs of both sexes for sale. Also a few registered Jersey cattle, either sex.
BUENA PARK, CAL.
When writing advertisers mention Cultivator.

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
Jerseys with a record as milk and butter producers
Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams. for sale.
L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

BE GENTLE WITH COWS.

I have no use for a dog around a dairy farm. One that is properly trained and is looked after by a sensible person may often be useful without being harmful, but where there are a number of individuals looking after the cows, I think the dog should be dispensed with. I have many times noticed a faling off of fully one-half in the quantity of milk given by my cows after they have been given a chase by the dog, while I have in mind a few cases where cows under normal conditions gave six quarts at a milking, would not give a pint after being chased by a dog. Now, a repetition of this experience for a few times may occur even after a lactation period of only three or four months.

Then, as to the matter of striking a cow, I think this is all nonsense. find the cows sometimes become nervous, when I can in no way account for it, and I have known even quiet animals to kick over the milk pail. Now, to rise in your wrath under such circumstances and use the milk stool as a cudgel is simply to give way to temper and only results in permanently spoiling the cow. I have seen men kick a cow with their big leather shoes in order to make her "hoist." Of course, the cow would perhaps kick back, and who could blame her? Two or three experiences of this kind result in her being ready at all times to wage war. Of course, to one who is not interested, there may be a certain amount of entertainment in this proceeding, but the man who is keeping the cows for the profit that is in the business will come out at the small end. By kindness I have often conquered heifers that seemed to be naturally of an evil disposition, while punishment would have permanently ruined them. There is no farm animal quite so nervous as the cow, and none need more careful and more gentle treatment. These are vital points in connection with the dairy business, and cannot be over-emphasized. A good dog is undoubtedly one of the conveniences of a farm, but he should in no case be broken in on the dairy herd. Before giving him an opportunity to drive cows he should thoroughly understand when to stop by the word of his master, otherwise the cows will often be given an injurious chase.

We have never seen an instance where punishing the dairy cow because she made a mistake did any good, and the milk stool has been responsible in the past for drying up as many cows as any other factor which we know anything about. The man who does not know better than to kick or pound a cow has no business on a dairy farm, his place being in a mule barn, where lessons in discipline are given alike by the master and by the animal.

Jersey cows can make profitable use of heavy rations of concentrated food, but their great capacity as producers was not developed upon concentrated foods, but upon grass and roots. While the greatest production is not possible without the aid of concentrated food, it does not follow that the cows of this breed must have a heavy grain ration. It is only necessary to find out by careful study and tests how much grain it pays best to feed. In view of the fact that we raise forage plants such as vetches cheaper than can be done in the East and that grain costs more here than there, is a reasonable inference that the grain ration should be smaller here than there.—American Dairyman.

A PROFITABLE GRADE HERD.

"Last year my father's herd—not a selected lot, mind you, but the heifers from this Holstein cross, produced an average of 309 pounds of fat, or 355.6 pounds of butter, and this year the yield will be increased. The average test of the individual cow is 3.9, the highest 4.9 and the lowest 3.4. The average test of milk produced is 3.75 per cent fat. The largest producers of this breeding is a seven-eighths cow, last year giving 12,008 pounds of 3.4 per cent milk, or 408 lbs. of fat, or 476 pounds of butter. The next highest yield is from a three-fourths cow, which, with 4.5 per cent milk, produces as much fat as the others for the first six months, but is not such a persistent mliker. These are records made on the usual feed and care given the entire herd. In the hands of competent feeders, and by forcing, they doubtless could be made to exceed these figures. In the case of each cow we note that the nearer we approach good breeding, the heavier producer and more presisitent milker, indicating that the more highly improved the blood the better the cow, if care is taken in the selection of males and the proper treatment is given the calves."—Nebraska Dairyman.

PROVIDE SHADE FOR HOGS.

Hogs like sunshine.

Hogs need sunshine, they enjoy it, but there is a limit. To be penned up in a small place on the sheltered side of a barn lot where the sun does double duty and where a breeze cannot pass through is anything but agreeable for the hogs.

Remember that the temperature down in the pen is not what your thermometer shows on the shaded side of a tree. Oh, no. Just get down in the pen, close to mother earth, or the plank floor, and let the sun warm your back a few minutes. A great many pens are made of boards that form a barrier to the breezes. Let the air circulate through the pens. Provide shade with no sides. The hog house makes a shade, to be sure, but it may be anything but cool in there. Some hog pastures need shade. All do that have not got it already. Treat your hogs right and they will do better.—O. J. Farmer.

GEESE NOTES.

Ten geese will consume as much grass as a cow.

Geese seek mates in February.

The gander is a gallant protector.

It is hard to glut the goose market.

Geese, like turkeys, can not be yarded.

The Jews buy only live geese.

The average weight of goose eggs is about five and one-half ounces each.

A goose is said to be the cheapest fowl alive.

A goose is particular about the condition of her food.

A gosling at 3 months of age should dress ten to twelve pounds, depending upon the season of the year hatched, the breed, etc.

TO DRIVE AWAY FLIES.

Mix 2 qts. fish oil, 1 pt crude carbolic acid, 1 oz oil of pennyroyal, 10 oz oil of tar and 1 qt kerosene. Apply with brush, cloth or atomizer and flies will leave immediately. A single application is sufficient for two or three days. This mixture will cost about 85c per gal. and about ½c per day per head. Don't put it on too thick.

HOW TO MILK.

To be a good milker requires patience, gentleness of touch and control over one's self to keep the milking stool where it belongs, no matter what his provocation is to rise up and use it on the cow. In other words, any irritability or harshness of manner that might excite or disturb the animal should be avoided. Do the milking as fast as possible, and without worry. Be thorough, too, in milking to the last drop, for just a little milk carelessly or unintentionally left in the udder will at once begin the work of "drying off" the cow. Regularity in milking, beginning always at the same hour, is another factor that counts, and it makes it easier and less distrubing for the cows if they are milked in the same order every time, as each one knows from habit when to expect her turn.—Farm and Home.

A LICE KILLER.

Drive a stout stake into the ground near where the hogs sleep. Wind with an old rope nailing it well, and saturate the rope twice a week with a mixture of equal parts of lard and kerosene. The hogs will do the rest if there are any lice on them.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA
When writing advertisers mention Cultivator.

Holsteins For Sale
From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.
MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD
DAIRY SHORTHORN BULLS FOR SALE
Admiral Dewey 183493 and King Edward 184393 at head of herd. Address
Fred Fuller & Bro. Imperial, Calif.
When writing advertisers mention Cultivator.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.
When writing advertisers mention Cultivator.

THE COW FOR THE FARMER.

The cow for best results with the general farmer, whether it shall be a high-bred pedigreed animal or grade or ordinary scrub is a question which confronts the dairyman or the farmer. Many enthusiasts tie their faith entirely to a pedigree, at least they give undue importance to the matter of pedigree and to name of a strain regardless of conditions or individuality. Others equally as mistaken claim that pedigree is of no value, a thoroughbred is of no more value than any chance animal.

On these points a response to a correspondent in Hoard's Dairyman makes the following points:

"We believe in that cow, without regard to breed, that will return a large dairy profit for feed consumed and at the same time produce calves that are as good or better than herself, when she is mated with the right kind of a sire.

We champion all dairy breeds because in them we find a larger proportion of animals that are returning large profits and produce calves quite equal to themselves.

We believe in all breeds of dairy cattle because they have been bred for generations for the special dairy purpose and have established, with more or less certainty, the power of reproducing dairy function. We are not unmindful of the fact that every dairy breed contains cows that are not profitable to keep and should be slaughtered not only for the benefit of the man who owns them, but for the benefit of the breed to which they belong. Notwithstanding this, the average production of dairy bred cows is much larger than from cows not bred for dairy purposes.

This is the reason we advocate dairy bred animals. It is conceded that through selection such cows can be developed from any breed or kind of cattle; but what is the use of beginning with the beef animal to make a dairy cow when we have a number of good breeds of dairy cattle already well established? It will take a long time to establish the dairy type cow that we want, and when we get her she will hark back for a great many generations to her original ancestors. What would we think of a man who tried to develop a beef strain of cattle from a dairy breed when he could have, already developed, several good beef breeds to commence with? Would he be practical?

It is not our intention to have any one dispose of his cows that he has and go out and buy all pure bred animals, but begin with the cows that he has; select a pure bred sire and select the calves from the best milkers. In time, a thorough bred cow can be purchased, which, with a full blood sire, will form a nucleus for a pure bred herd. It is better to grow into a business than to go into a business."

CORN AND ALFALFA.

The experiments conducted at the New Jersey station show that the average cost per ton of dry alfalfa hay for five years, even with heavy manuring, was but $5.25 and that the feed value of this hay compares favorably with the protein feeds, which at present cost $22 or more a ton. This crop more than any other fulfills that very important requirement, a cheap source of protein for balancing other home grown products. Its growth cannot be too strongly recommended. An ideal situation would be where the farm is growing corn and alfalfa to supply the entire needs of the herd.—Holstein-Friesian Register.

CUTTING AND CURING ALFALFA.

Alfalfa is proving of such value in the East that the utmost care is used in its curing. Its great content of protein is such that it is considered the most valuable hay grown, and to protect from the occasional shower there the farmer goes to the expense of cotton caps for each cock in the field. Cutting out reference to protection from rain, we copy some valuable hints on methods of curing from an eastern paper:

Alfalfa should be cut just as it is beginning to bloom. If the field is fairly uniform the proper stage for cutting is when about one-tenth of the plants are in flower. In dry regions there is no difficulty in curing the hay, but where rains may occur during the haying season great care is necessary to produce well cured hay of good color.

Rains or even heavy dews spoil the color, which, while not making it less nutritious for feed, makes it less valuable for market. The harvesting should take place with as little handling as possible in order to prevent shattering the leaves, which contain a large proportion of the nourishment.

The mower should be started in the morning and the alfalfa put into stacks or the barn as soon as possible. If it cannot be cured in one day, rake up in winrows, or place in small, tall cocks over night. Open them the next morning and draw in as soon as the hay is thoroughly cured.

HEAVY HORSES.

"The difficulties of the hired help question are constantly forcing to the front the question of more and better labor-saving machinery. Large gang plows, wider mowers and reapers, call for more and heavier horses, and the farmers of the great West are finding out that it pays them better to have a few good big draft mares than a lot of light and medium weight stock of the express or 'bus type."—Ex.

To which F. S. & H. replies: "This is all true enough, but how are the kind of horses referred to going to be secured, even from "good big draft mares" if every sire in the land is to be a great big fat hulk, pampered, groomed and doped into beauty of coat and artificially made "style," with never a stroke of work to harden a muscle, strengthen a bone, invigorate a heart or expand a lung?"

CHANGE OF FEED DESIRABLE.

Milk producing foods should be fed to the dairy cow, not fattening foods. A variety should be provided when possible. A change in feed every few days will be quite acceptable to the dairy cow.

To make modeling clay that will stay moist, knead dry clay with glycerine instead of water and it will remain moist for some hours.

When writing advertisers mention Cultivator.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

FLEAS ON DOGS.

Editor Cultivator: My dog is covered with fleas. How can I get rid of them?—A., city.

Wash with strong suds made of Fels Naptha soap.

Oil of pennyroyal will also drive the insects away. Saturate a rag and bind about dog's neck. Buhach also fixes them.

* * *

GALLED NECK.

Editor Cultivator: Kindly give treatment for galled neck.—B. Y., Dinuba.

Thoroughly wash the affected part with water and castile soap, or, what is better, water with half an ounce of eucamphol to each gallon. Follow by dusting in Squibb's compound alum powder, twice a day. Of course, it goes without saying that the collar should be lifted from the neck as much as possible and the pad kept thoroughly clean by washing each time removed from the neck. Of course, if the case is a bad one, the horse would be relieved from any work.

* * *

VACCINATION FOR HOG CHOLERA

Editor Cultivator: Is vaccination for hog cholera a success? If practicable it would save thousands of hogs in this State alone. I appreciate the value of cleanliness, preventives and remedies generally, but they do not reach as far as they should.—F. J. Fogg, Colton.

Owing to the fact that there are two closely allied diseases often coming together and causing complications which are as hard to reach and yet each caused by separate germs, it has been impossible to perfect a system of vaccination which is successful. These diseases are the genuine hog cholera and the other the swine plague, which is often confused with the cholera. While some parties have claimed to have had some degree of success, on the whole it has proved worthless and we still have to depend upon perfect cleanliness and such remedies as have been discovered.

It is common knowledge that many a herdsman and milker has by his gentle and genuine love for his cows so completely won their confidence that no one else has ever been known to get the same amount of milk that he can.

U. S. SEPARATORS SOLD BY K. B. NORSWING

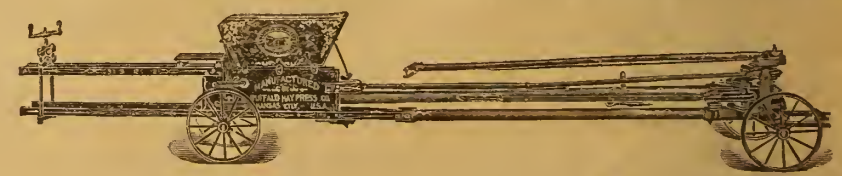
MAIN ST. AND SLAUSON AVE., LOS ANGELES

Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

When writing advertisers mention Cultivator.

When writing advertisers mention Cultivator.

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA



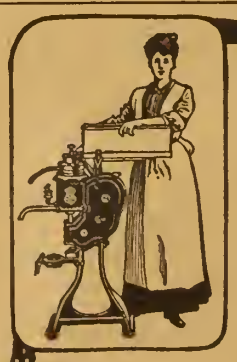
THE BUFFALO
Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.

We manufacture BUCK RAKES, Stackers, Gang Plows, etc. Write or see us before buying.

We Have a Good Assortment of Second-Hand Presses on Hand Now

L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.



"Cheapest" doesn't always mean the lowest priced, certainly does not when applied to cream separators. Numerous makes of separators nowadays are offered for less than the famous and improved

U. S. Cream Separators

Which hold World's Record for Close Skimming.

A very short use of those cheap "job-lot" machines proves it costs so much to keep them "going" during their short life that they're not "cheap"—even as a gift—(not to mention their poor results) Time has conclusively proven that U. S. Separators

ARE LEAST EXPENSIVE

because the cost to maintain them is so small in comparison with their long and unequalled service.

FOND DU LAC, WIS., September 15, 1904.

"*To whom it may concern:*—I have used one of your U. S. Separators for the past twelve years and it has given the very best satisfaction. I have paid 75 cents for extras since getting the machine. I cannot recommend the U. S. too highly.—J. BALSON."

Our handsome Dairy Separator catalogue tells all about the splendid construction that makes possible such testimony as this. Get it now, it's free, and you'll find it interesting, we know.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

408 Prompt Deliveries, from 18 Distributing Warehouses throughout United States and Canada

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt.

When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

GRIT.

About four or five years ago when the editor of the Cultivator invited me to contribute to its columns, in reply to my question, "How often do you want me to write?" he asked, "How long before you will write yourself out?" "I really don't know," I answered, "but it is not like getting married; I can break off at any time and quit writing." The poultry subject is so interesting to me that I fear sometimes our readers may get tired before I quit writing, and I sometimes feel as if I ought to apologize for going over old subjects again and again. I cannot help it, and you will have occasionally to skip a page that may seem unusually tiresome and only remember that there are many beginners in the poultry business, who consult these columns for help or instruction and be patient.

* * *

A very dear old friend of mine said to me, "My daughter says you are running her ranch, and she is succeding beautifully." "Why, I have never seen her ranch!" I exclaimed. "I know it, but she is reading the Cultivator and following your instructions and doing very well, so she calls it your ranch." That is a responsibility that I do not want, but if I can help any one to succeed I am glad of it.

It is a help to hear of the difficulties that others encounter; we all like to hear the story of peronal achievement and it is especially interesting when it depicts the actual doing of things by one who has succeeded. My talk on summer work with hens and also with chickens is just an outline of what I did myself and with perfect success. Others may have good plans and succeed equally well, if they only remember that all animals, human beings as well as fowls, require more green food, vegetables and fruit, in the summer than at any time of the year. It is nature's own way of keeping us all healthy, and if we want to succeed with fowls we must manage to give them a supply of succulent green food. This is easy enough in the East, but not so easy in California, and many a time I have driven on a hot summer's day eight or ten miles to a friend's house to get the tender lawn clippings for my biddies. I kept track of the days when my different friends mowed. I begged some to drop me a postal, and I never went to town without empty gunny sacks in my buggy, and I rarely returned with them empty. I have fed fruit of almost all kinds except oranges and lemons; vegetables of all kinds raw, chopped fine, or cooked; melons, squashes, pumpkins, cucumbers, all with advantage to the fowls during the heated term. Melons, I know, are not considered good by some, but anything that fowls eat with great avidity cannot be very injurious. I observed that the melons loosened the bowels and slightly affected the kidneys, but I thought it helped the moult, and the hens were in vigorous health, I had several express wagon loads of melons and for two weeks the fowls enjoyed them without any ill effects.

Besides green food there is one thing that I have not mentioned lately and that is grit. Few realize the value and the need of good sharp grit. Nature provides a use for every organ of the body, and provides in every body an organ for each specific duty. Most animals are provided with teeth to masticate their food so that it may be prepared for the action of the fluids secreted by the stomach, pancreas and liver. The food besides being crushed by the teeth is acted upon by the saliva in the mouth. Nature has not endowed birds with teeth, but has provided a good substitute in the gizzard. This is a tough, strong muscular organ so situated in the body that all food taken into the mouth must eventually pass through the gizzard. Previous to entering the gizzard the food has been received in a pouch or bag called the crop, where it remains some time. There it is soaked with and acted upon by a fluid secreted in and by this pouch, and a process takes place somewhat similar to the action of the saliva in the mouth of animals with teeth. The food gradually leaves this pouch, passes through the proventriculus, where it is mixed with the gastric juice and is rapidly passed into the gizzard.

The gizzard takes the food that has been softened and mixed with digestive liquids and grinds it by pressing and rubbing it against the small stones that the bird has swallowed. The hardest grains and seeds are ground into a paste which is readily acted upon by the digestive fluids. This paste is pressed onward into the small intestine, where it is mixed with other fluids, and the nutriment is absorbed.

No doubt a bird may be made to exist for a time, perhaps a considerable time, without grit, just as a person may live for years with bad teeth, or perhaps with none at all. We all know how little such people enjoy their food or health, and surely if the birds do not have the means of masticating the food they cannot be healthy, and will not give their owners good returns.

The gizzard is a marvelously strong little mill and when provided with the keep the fowl in good condition. Hard proper grit, or little grindstones, will substances are necessary for grit, such as flint stones, or granite broken up. China, earthenware, glass and such substances broken up make excellent grit. When the grit has not sharp edges the harder parts o fthe food do not get ground up fine enough to be digested, husks and green food accumulate and frequently cause a stoppage between the crop and the gizzard, so that nothing but liquid can pass. Lack of sharp grit brings on diarrhoea, indigestion and liver trouble, the gall overflows and sometimes the gall sack bursts. There are two passages, or openings in the gizzard, one which is much the larger, through which the food enters, the other much smaller,

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations.

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

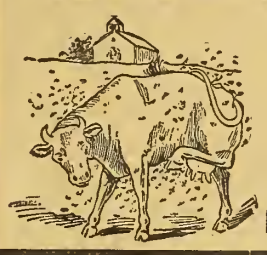
Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

When writing advertisers mention Cultivator.



FLYO-CURO

Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL

The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS

—AND—

BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street

San Francisco Office and Salesroom, 33 Market St.

When writing advertisers mention Cultivator.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food

ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

leading out of it. Thus the gizzard can receive larger substances, but cannot get rid of them until they are ground small, and sharp hard grit is necessary for this. Oyster shells are not hard enough for grit. They are good for laying hens on account of the lime they contain, but are actually injurious to small chicks. Good sharp grit can he purchased at the poultry supply houses advertising in this paper and mills in which you can grind up broken china can be bought at the same places. I used to go to the china stores and get a barrel full of broken crockery for carrying it away years ago when I could not buy grit and found it excellent, in fact, the hens ate it with avidity.

* * *

A friend of mine was very much troubled by her hens laying soft-shelled eggs. At last she persuaded her husband to take his wagon to the hills, where there is a quarry of what she called rotten granite. He brought home a load of it and in few days the hens laid hard shelled eggs. She told me the shells were so hard that the chicks could hardly break out of them.

"I cannot think what ails my fowls," said one lady; "they have all the food they can eat, hut here is another dead."

"Have you ever opened one to discover the trouhle?" I asked.

"Yes, but I never find anything!"

"Well, I think your fowls have indigestion," I said, "hut we will hold a post mortem on this one and try to solve the difficulty."

We found a medium sized gizzard, full of dark earth, no stones, no grit. That told the story, the fowls were starving in the midst of plenty, just for lack of grit to grind their food.

The value of good sharp grit can scarcely he over estimated and yet even intelligent people do not realize this; they think, as did the aforesaid lady, that there is grit enough in the natural soil; this is rarely the case even on free range and when fowls are kept yarded there is never enough unless they are artificially supplied. If you doubt this pound up a broken plate or saucer, the pieces should not be larger than a pea and should have three sharp corners. If your hens need grit you will he surprised to see how eagerly they will eat the china.

Observation taught me that all my best layers were frequent visitors to the grit box. Grit to grind the food, and charcoal to keep it pure whilst it is being ground and digested will help to fill the egg hasket. Give the little chicks the small chick grit.

Eight pounds will be sufficient for the first two months of the life of a hundred little chicks; then they should have a larger size. One hundred pounds of hen sized grit is sufficient to last a hundred hens nearly a year. Pigeons consume in proportion to their size more grit than fowls. If you give your pigeons grit you will keep them healthy.

* * *

EDITOR'S QUESTION BOX.

Bowel Trouble in Chickens.—(B. W.) We have commenced this year to raise chickens and we have lost a great many. We hatched, about one week ago, about a hundred chicks. They have heen fine and healthy, but now they are commencing to die off as the older ones did. The discharges from the howels adhere to the chicken's feathers, giving a dirty appearance. The chicken picks at itself and the others pick at it. We have a medicine, Germazone, which checks the disease, but we dislike to give them medicine constantly. Can you tell what is the matter and what to do? We have been keeping the brooder at about ninety degrees, or thereabouts. Which do you consider most profitable, hens or ducks? What are the properties of millet seed? Is it fattening or relaxing?

Answer.—When chicks show the bowel symptoms you describe up to ten days of age, it is usually caused by their heing poorly hatched, the heat in the machine has been irregular, prohably too hot the last week, or the lamp has gone wrong and the eggs have been chilled. The same symptoms may develop, however, from their being over-heated in the brooder, or chilled, or by their being fed too early in life. Any of these causes will produce almost the same symptoms, which come from the yolk inside the chick not being digested. The reason the yolk does not digest is that the howels are too much weakened by the overheating or the chilling and cannot do their duty. The only thing that may help them is to give them food which is very easily digested. I consider rice hoiled in milk with a little powdered cinnamon added is an excellent food for bowel trouble in little chicks and would advise you to give this. Germazone is good in the water(the copperas is for this trouhle too cold and heavy), a little nux vomica in the water would be hetter, but scalded sweet milk and pure water would be my choice. Do not wash the soiled part. Pick it off with your fingers and grease it with a little carholized vaseline. Be careful not to overheat the hrooder. Give the chicks chopped onion and lettuce every day.

I do not like millet seed for young chicks, it is very hard for them to digest, the seeds are so slippery and hard they do not get soaked up hy the digestive fluids, and when the seeds come to the gizzard they are not ground up unless the chick is very strong and vigorous and its gizzard contains plenty of very sharp grit, otherwise the millet slips through and is voided in the droppings without being digested. This irritates the intestines and the chick does not do well. This is my reason for only giving a little millet and not making it a staple food, also it is quite expensive. It depends upon the market and the facilities of feeding as to which are the more profitable, ducks or hens. I should think you would find hens the more profitable.

* * *

Sick Chickens.—(L. R. T.) My chickens are succumbing to a disease which I am unable to diagnose. They mope around, their combs turn a kind of yellowish red color, and they refuse food. They are about four months old. I feed mash in the morning, Kaffir corn at noon and rolled barley at evening. Plenty of clean, fresh water, grit, charcoal, shade, green onions and other green food. Germozone in drinking water every day. Copperas once a week. Occasionally use sulphur and pepper in mash. Feed lightly morning and noon hut give all chicks will eat at evening. Can chickens be raised successfully at sea coast towns, say two miles from ocean?

Answer.—Your chickens have symptoms of liver trouble and lice. I should guess from your letter that they do not have sufficient green food and they have indigestion. Germozone is very good for roup but should not he given for indigestion nor should it be given every day. Give a medicine for a week if necessary and then either rest or change it. Give a little Epsom salts in the drinking water for two days then give Nux vomica about forty drops in a quart of water, not giving any other water. Are you giving any animal food? Or what are you giving to cause indigestion? Have you made any port mortem examination? What did you discover? If it is difficult for you to diagnose the case on the spot when you know all the conditions, how much more perplexing for me! You do not mention the breed, nor if they are on free range, nor how they are housed, nor the ingredients of the mash. I know the comh turning yellow is a strong symptom of liver trouble and indigestion, hut I do not know enough about your care of them to he able to tell you where you are lacking.

Chickens can he and are heing raised very successfully near the sea coast. They may require a little different handling at some places, but with sanitary conditions and care they can be made profitahle almost anywhere.

CURING COLDS.

Each fowl showing evidence of cold or congestion is shut up in a small coop and given two grains of calomel at night, followed hy a one-grain quinine pill night and morning for two or three days. If there is any discharge from nostrils, a few drops of camphorated oil are injected into each nostril. If any improvement is manifest in two or three days they are removed to a small room and a solution of copperas added to the drinking water. They are kept here for a week or two, or until they show a complete recovery. If, on the other hand, after two or three days observation and treatment no improvement is manifested, the hird is killed and huried.—American Agriculturist.

White Leghorn Chicks, 7½c
Reduced price after June 1st. These chicks are bred from superior, thoroughbred, vigorous stock. Excellent all the year layers of large white eggs.
White Plymouth Rock Chicks, 12½c
Hatching done, 3½ cents per egg.
WM. A. GREEN, Phone 191, Box 401, ANAHEIM, CAL.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

.. Summer Hatching ..
Pays us—it may interest you if you if you are not overstocked. An August hatched cockerel from these yards sold for $15 this spring. Eggs after July 1, $1 for 15 $5 per 100, including the eggs from our prize winning birds.
Lake Avenue Poultry Yards, Pasadena, Cal.
When writing advertisers mention Cultivator.

JACOB KREGER
Breeder of
White Leghorns
Eggs in Season
ANAHEIM, CAL.

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States
When writing advertisers mention Cultivator.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

Standard Bred S. C. White Leghorns
EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.
CAPTAIN MITCHELL SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator
When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.
When writing advertisers mention Cultivator.

WARNING!!
THE JUBILEE INCUBATOR CO.
now of Oakland, California beg to announce the removal of their factory and business to SUNNYVALE, SANTA CLARA COUNTY, CALIF., 40 miles south from San Francisco, where a large plant is being constructed.
The Jubilee will possess the finest works and most splendid facilities to be found in the West, and also ample room for further expansion.
This move is of the utmost importance to every Poultryman on this Coast. "The Why and the Wherefore" is fully explained in the **JUBILEE ANNOUNCEMENT.** If you have one chicken or 5,000 you should have that Announcement.
You are no doubt curious to know **why** we moved to **Sunnyvale,** and where **you** will be benefited, Get the **Announcement.** We mail it free. Now get it,—we promise you it will be interesting.
TAKE NOTICE, On and after Aug. 1st our address will be
SUNNYVALE Santa Clara County **CALIFORNIA**
Until then, the same as for many years:
JUBILEE INCUBATOR CO.
Jubilee Incubators and Brooders, Poultry Supplies
515, 517, 519 32d St. Wholesale and Retail OAKLAND, CAL.

SUMMER HATCHING.

While the belief in summer hatching is not general, it has some strong advocates in California. Of these J. L. Harrison, of Lave Avenue Poultry Yards, Pasadena, by our own request, gives his ideas and reasons for them and we give below for the benefit of our readers. Sure it is that Mr. Harrison makes strong points and worthy of consideration.

"Noting your inquiry of recent date, I will state that I have found summer hatching very profitable. Given the requisite shade, water, green feed and clean quarters, July hatched chickens have afforded me the maximum of profit. Contrary to the general impression, summer hatched chicks live and grow with a smaller death rate than those hatched from January to April. Dirty houses and runs, together with a lack of interest or enthusiasm on part of the care-taker will cause a failure that my be wrongly charged to the hot weather or to the old notion that poultry does not do well in California. Over crowded yards is another cause of failure.

The bulk of my breeding stock is raised in April, May and June. My prize winners at the last Los Angeles show were June hatched birds and were in far better plumage than those I hatched earlier in the season. Theo. Hewes, in the last Inland Poultry Journal, claims that summer hatching is a necessity in parti-colored birds, the colors of the late hatched being invariably better than the earlier ones. This claim is substantiated by many of the eastern breeders and works out all right in this State, where conditions are supposed to be different.

Theoretical balanced rations should be avoided at any time and especially during the heated months. By using common sense methods of feeding it is possible to secure better developed birds at six months than at eight or nine months by a miscellaneous mixture of feeds misnamed balanced rations. Given cracked corn, beef scraps at all times and green feed once a day, a chicken can balance its own ration to a nicety and I will guarantee better growth than can be produced with any conglomeration of seventeen or twenty-seven kinds of seeds and grains now on the market. This bill of fare should be continuous from the first feed until the cockerels are marketed and the pullets moved to the laying pens. The cracked corn for the first two or three weeks should be finely cracked, and if this can not be readily found, common feed meal will answer. Pullets raised by this method ought to be laying in four and a half to six months and I have cockerels that weighed over four pounds at three months.

September and October hatching is more difficult than July and August, owing to the scarcity of eggs and the lower fertility. I have noted a steady decline in the fertility from the first of July to the middle of October, the eggs being much weaker later in the moult.

An incubator lot placed in the machine August 15 tested out 70 per cent fertile, those started two weeks later tested 60 per cent, while a machine started Oct. 15th, tested out one-half. The chicks hatched in October and November are apt to suffer from the early rains and a chick once stunted either by chill or an excess of lice should be given an early burial. I have found the smallest percentage of profit to be in hatching from September 15 to February 1. The pullets raised between these dates lay a few eggs and then take a moult along with the older stock.

The broiler business is something like growing hot house cucumbers. It requires an expensive equipment, plenty of experience and last, but not least, a market. There are people in California who are willing to pay Philadelphia and New York prices for correctly grown broilers, but these people are not as numerous as the customers who want broilers at the pound price of old hens. I am convinced that there is nothing in the broiler business for the average mortal. Cull and surplus cockerels must be disposed of at some price, and I have noticed an advance in the quotations after Thankgiving for the past three years. Summer hatched cockerels should be marketed for the Christmas market or later, and the prices per pound will average two to five cents higher than the November market.—J. L. Harrison, Lake Avenue Poultry Yards, Pasadena.

HOW TO CLEAN EGGS.

The proper cleaning and sorting of the egg crop, so that it will have a neat and attractive appearance will add much to its selling qualities. Like everything else, there is a best way for doing this.

Eggs all one color and perfectly clean make an attractive appearance and will readily bring several cents more per dozen than a dirty lot, particularly when quality goes with appearance; and the one is generally an indication of the other. An egg is improperly cleaned when it is wet too much and not rubbed dry with a dry cloth. Some when they see spots of dirt on eggs put them in a pan of water and wash them like potatoes. There is on the freshly laid egg a mucilaginous covering which gives it a velvety appearance peculiar to new eggs. Water removes this, making the egg have an older appearance, and destroys its keeping qualities, as this covering makes the shell impervious to air. An egg, then, if it is not much soiled, should merely be moistened where necessary and rubbed dry. If the blemish is in the nature of a stain, a little powdered scouring brick will help, and if this is not effective vinegar may be used in addition. In this way any stains may be removed from an egg. Sometimes they have to be put in water, but do not do it unless it is necessary, and then rub dry afterwards. If this is not done they will look soiled and dingy. Eggs should be collected three or four times a day.

Regularity is an important rule in the care of fowls.

A vacation is due. Take it.

CHARCOAL FOR HOGS.

The economical and satisfactory way of securing a good supply of charcoal for hogs is thus given by the Iowa Homestead:

Where one has a supply of corn cobs it is not a difficult matter to make up a batch of charcoal. Dig a pit sufficiently large to hold the amount of cobs to be used at one burning. Usually this pit is circular and may be made four or five feet deep. However, we have had good success in using a trench about two feet wide, four feet deep and any length.

Start a fire with shavings and kindling in the bottom of this trench and gradually pile on the cobs. Care must be taken not to smother the fire—just allow the flame to show through the surface all the time until the pit is full, then place a tight covering over the top. Wood will not do, as it will burn out. It generally pays to have on hand for this purpose an old piece of sheet metal of some kind. Build a little earth around the edges so as to absolutely exclude the air.

When the charcoal has cooled off it may be sacked up, and usually it is advisable to mix with it a little salt. A mixture composed of one barrel of charcoal to one pail of salt is usually eaten eagerly by hogs. Where it is desirable to use such a mixture for the prevention of worms, a little copper sulphate may be dissolved in water and then sprinkled on this mixture so as to cause its uniform distribution. The whole mixture is usually placed where hogs may have access to it at all times. It is not difficult to extemporize a self-feeder so that the mixture is kept dry.

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.
When writing advertisers mention Cultivator.

Indian Runner Ducks
The great layers. Hardy ranch-raised stock. Eggs, 7·c per 13, $4.50 per 100.
Mrs. Frank Morse, R. D. 4, Santa Ana, Cal.
When writing advertisers mention Cultivator.

Pure Bred Black Minorca Hens For Sale
Also some young birds of same breed. Inquire of D. M. HATHORN, COMPTON, CAL.
When writing advertisers mention Cultivator.

BLUE ANDALUSIANS Eggs, $1.50 for 15
MRS. J. S. OUFF, 3145 S. Hoover St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

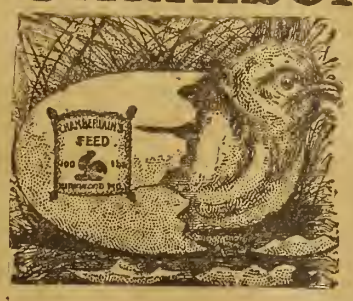
A SNAP—CHICKENS
Flock of Thoroughbred S. C. W. Leghorn Hens. Chance for choice stock at lowest prices. Call or write,
E. A BOST, 514 W. Crow Ave.. Pomona, Cal.
When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $1.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

The Big Incubator a Success
The Mammoth Incubator at Bamboo Ranch is bringing out s fine hatch this week. Eggs for the next hatch may be sent at once. Hatching for the trade is our specialty. **Four Good Incubators and Brooders for Sale.**
2000 Barred Rock chicks just hatched will also be disposed of
BAMBOO POULTRY RANCH
Home Phone Glendale 701 on Los Angeles Exchange
AIKEN & COE, Proprietors GLENDALE, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at 1903 Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock aud Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 **Los Angeles, Cal.**
RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile
When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed


World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

PAJARO VALLEY AND ITS APPLE INDUSTRY.

(Continuep from First Page.)

apples, though the product is of excellent quality ,are not raised to any extent because they ripen when the markets are glutted with other summer fruits, and consequently prices are not remunerative.

Red varities are not planted extensively, as the demand on this coast is limited and exhorbitant freight rates preclude the shipment of these to eastern and European markets in competition with the eastern grown red apple.

The two varieites which attain the highest perfection, are most sought after and command the highest prices, are the Newtown Pippin and the Bellflower. During the last ten years these two have been planted almost exclusively.

These two varieties are quite exacting in their requirements, so much so that the known area in which they can be profitably produced is limited to a very few localities on the globe. This fact, together with their popularity amongst consumers, will always insure for them a place amongst the foremost in list prices in any market.

* * *

Growth of Industry.—During the first twenty-five years after the settlement of Pajaro by the Americans, the apple increased but little. Sufficient quantities of apples to supply the coast markets were being raised in other parts of the State, principally in the counties adjacent to San Francisco bay, and as the demand was limited, there was no special incentive to plant commercial orchards in this district.

In 1873-4 two of the apple grower's most dreaded pests, codling moth and San Jose scale, made their appearance in California orchards. Mainly through negligence on the part of growers, such havoc was created by these insects that by 1880 the industry was practically abandoned in what had been the foremost districts of the State. As a result of the calamity which befell those sections, together with consequent stimulated demand at high prices, our apples first came into prominence and the business received that impulse which afterward transformed Pajaro valley into the leading apple producing district of the West. Our climatic conditions proved not so favorable for the rapid multiplication of the above named pests and the loss to the orchardist from this source was very slight for many years.

At present the number of apple trees in this ditrict reaches close to 900,000, and the area covered exceeds 12,000 acres. Approximately seven-eighths of these trees are Newtown Pippins and Bellflowers in about the proportion of three of the first to two of the latter. The remainder is made up of every variety found in the catalogue, with White Winter Pearmain, Red Pearmain, Missouri Pippin, Sangford Seedling and Lawver predominating. From present prospects the yield this season will amount to 1,750,000 boxes, or about 2700 carloads.

But slightly more than one-third of the trees have attained full bearing. Figuring on the rapid increase in yield of the large acreages which are just reaching the bearing age, the Pajaro apple output within the next five years will amount to upwards of 5,000,000 boxes.

* * *

Markets.—The Newtown Pippin, on account of its superior keeping qualities, may be sent to the most remote parts of the globe. It finds best markets in Europe and the eastern States, but there is a growing demand in Australia, Asia, South America and islands of the Pacific.

Markets for the Bellflower are confined mainly to the territory reaching from this coast to Chicago, although the demand is gradually extending eastward from the last named place.

The poorer grades of apples are shipped to markets within the State, or are used for canning, jams, jellies, cider, vinegar and the dried product.

Though Pajaro can produce Newtown Pippins and Bellflowers which can not be excelled by any spot on earth, yet through an unfortunate combination of circumstances, the reputation of our fruit has suffered materially during recent years. Some of the misfortunes came through causes which could not be obviated, others are due to avarice and shortsightedness on the part of some of those most interested.

Last season, shortly before picking time, an unprecedented hot spell prevailed for a day or two. The resultant injury to the apples shipped out was not perceptible until the fruit arrived at its destination in distant markets. It rapidly deteriorated, much to our discredit, but too late to remedy the evil consequences to the reputation of our apples. Again, the greater portion of the apples have been handled by packers who buy the fruit on the tree, paying a lump sum for the crop. Prices range pretty high in that event, the packer paying from one hundred to two hundred dollars per acre, depending upon variety and prospective yield. After paying a high price and with the whole crop, good and bad, on his hands, the temptation to the packer is very great to smuggle inferior fruit into the boxes marked "choice."

Particularly would this inferior pack be expected when brokers and buyers from outside markets "wink" at the deception and accept the pack because they can get the goods at a few cents cheaper on the box than they would have to pay for choice apples.

There are reliable packers in Watsonville, and if outside buyers would deal only with those who put out honestly packed goods, the unscrupulous packer would soon be eliminated.

* * *

Manner of Packing.—Very few orchardists pack their own fruit. The growing tendency is to handle on a plan somewhat similar to that of the fruit exchanges. In this case reliable men have established large packing houses in town at convenient places for shipping. The orchardist delivers his crop at this place in boxes, loose. From this time the packer takes charge of the fruit, furnishing labor and material for packing and also finding a market for the product. These houses are send-out a strictly reliable pack and the plan is proving satisfactory to all concerned.

Apples are packed in pine boxes 10x11x22 inches in dimensions and a box holds about fifty pounds. For export, each apple is wrapped in paper. The grade is determined by the number of rows or tiers required to fill the end of a box. Grades are known as 3, 3½, 4, 4½ and 5 tier. The 4-tier is in greatest demand and prices are quoted on a 4-tier basis. Prices for 4-tier Newtown Pippins and Bellflowers range from about 90c to $1.15 per box f. o. b. Watsonville.

While the apple orchard does not reflect all sunshine and profit, yet all things considered, there probably is no fruit industry of the State attended with as little annoyance and risk and no branch of fruit growing more pleasant to pursue nor yielding as sure profit as the apple business in Pajaro valley.

A GOOD PUMP.

The installation of a deep well pump for the Del Monte Irrigation company of Pomona (the largest irrigation company in that locality) marks a change in the manner of raising water heretofore employed by that company.

Up to this time it has used a steam driven air compressor of 125 horse power, at a central station, pumping several wells at various distances from the central plant. While the plan was feasible at the time it was installed, the water level in the wells in the vicinity during the last few years has receded so far from the surface that the air lift ceased to be economical and raising water by this means was too expensive and no longer profitable for the stockholders.

In looking for a means to overcome this difficulty, the engineers and directors, after a thorough investigation of all the different types of pumps, and after calling for bids from all the different manufacturers and agents in this part of the State, purchased a plant of the Pomona Manufacturing Company, of Pomona, consisting of their No. 28 double acting power head, used in connection with a ten-inch, double acting Pomona cylinder and valves. This plant is being driven by a 20-horse power electric motor and is raising 47½ miner's inches of water at a cost of 29 cents per hour for power, showing an actual efficiency on the pump of 72 per cent.

This plant was finished and made its trial run on June 10th. The directors of the company were so pleased with the plant that they accepted it at once, as it was doing its work easily and raising 20 per cent more water than the contract called for.

Another plant put in for the combined Orange Grove Tract Water Company and Packard Water Company, near Pomona, is raising 48 miner's inches of water 100 feet on a fuel consumption of 2 gallons per hour, making the cost for power 11 cents per hour.

The Pomona Manufacturing company have had phenomenal success with their new and improved deep well pump, having put in 90 per cent of the deep well pumps in the vicinity of Pomona, besides several at Cucamonga, Lindsay, Ventura and Los Angeles.

Any one interested in deep well pumping should send for their new catalogue, which will be sent free on request.

WILL ENLARGE.

The Western Gas Engine Co., of Los Angeles, has just purchased eight acres of land on the corner of Santa Fe and Slauson avenues for which was paid $50,000. This property is to be used for manufacturing purposes and it is anticipated that the Western people will soon begin the erection of a vastly improved manufacturing plant for the purpose of putting out their popular Western gas engines. It is rumored there may be an increase in the capital stock to provide for these extensions.

The Western people have had pronounced success in their manufacturing business, especially along the line of the gas engines which are largely used as power for pumping in many parts of the State. They will probably require several months to complete the improvements before transferring entirely from the old plant, which is now located on North Main street.

Hay, Grain, Potatoes

Car Lots

HOWARD BROKERAGE CO. FARM ORCHARD & VINEYARD PRODUCTS 170 CENTRAL AVE HOME 1360 MAIN 1545 LOS ANGELES, CAL.

Will Buy or Handle on Commission Direct Connection with Largest Consumers in Southern California

When writing advertisers mention Cultivator.

ORPHANS RECEIVED.

The following children have been received in the Boys' and Girls' Aid Society Home since last published notice:

1. Ray James, half orphan, age 12, eyes grey, hair brown. 2. Lillie Hastings, half orphan, age 11, eyes blue, hair brown. 3. Helden Hastings, half orphan, age 7, eyes blue, hair brown. 4. Mary Hewitt, orphan, age 9, eyes blue, hair brown. 5. Wm. Mendoza, half orphan, age 6, eyes black, hair black. 6. Josie Rivera half orphan, eyes black, hair black, age 6. 7. Rena Huddleston, half orphan, age 7, eyes blue, hair brown. 8. Sena Huddleston, half orphan, age 7, blonde. 9. John Huddleston, half orphan, age 11, eyes hazel, hair brown. 10. James Gibbs, half orphan, age 9, eyes blue, hair brown. 11. Cecil Gibbs, half orphan, age 9, eyes blue, hair brown. 12. Winifred Nichols, half orphan, age 6, eyes blue, hair brown. 13. Max Nichols, half orphan, age 5, eyes blue, hair brown. 14. Chester McCawley, half orphan, age 9, eyes brown, hair brown. 15. Stella Watts, half orphan, age 8, eyes grey, hair brown. 16. Edward O'Leary, half orphan, age 2, eyes blue, hair brown. 17. Myrl O'Leary, age 4, half orphan, eyes blue, hair brown. 18. Walter Fowler, half orphan, grey eyes, light hair, age 8. 19. Edna Hulbert, orphan, age 10, hazel eyes, brown hair. 20. Marjorie Duff, half orphan, age 9, eyes blue, hair light brown. 21. Harold Duff, half orphan, age 9, eyes blue, hair brown. 22. Maggie Clements, orphan, age 6, colored. 23. Lucy Clements, orphan, age 9, colored. 24. Howard Clements, orphan, age 13, colored. 25. Carmilita Taliberti, orphan, age 11, eyes black, hair black. 26. John Taliberti, orphan, age 7, eyes black, hair black. 27. Louis Taliberti, orphan, age 10, eyes black, hair black.

MRS. E. A. CHRISTIAN, Supt.

To Portland

$40.00 ROUND TRIP

VIA

SALT LAKE ROUTE

Through Salt Lake City and Ogden, along the beautiful Columbia River to Portland.

Tickets on sale every Friday, June 9th to October 6th, inclusive. Limit 21 days. Stopovers allowed at all points on return trip within final limit.

Information and literature gladly furnished at City Office, 250 South Spring Street, Los Angeles. Both Phones 352, or Salt Lake depot, East First Street. Home 490. Sunset 4095.

E. W. GILLETT, Gen. Pas. Agt.
T. C. PECK, Asst. Gen. Pas. Agt.
Los Angeles, Cal.

When writing advertisers mention Cultivator.

Queries and Suggestions

PLANTING EUCALYPTS.

Editor Cultivator: I wish to know how and when to plant eucalyptus seed. I expect to set out groves of both blue and red gum next March. Our winter climate here (upper Sacramento valley) is about the same as Los Angeles, only we have frosty mornings and people claim that home grown trees do better than those from the South. Have been unable to find any one who can tell me how to plant the seed or care for the trees after they come up—prior to time of transplanting.—N. A. Chisholm, Jacinto.

The time for planting the seed is during the months of August and September. The seed may be broadcasted in nursery trays in good, rich, friable soil. When plants are one to two inches high, transplant in same size trays, one hundred to the tray. One point which will have to be guarded against at time of planting is to prevent ants from carrying away the seed. This may be done by surrounding the seed trays with a line of buhach or by a line of tanglefoot or some sticky substance which will prevent them from gaining access to the seed.

Of course, it goes without saying that care must be exercised to prevent drying out of the seed trays and a better stand will probably be securd if protection from heat of midday sun is given by lath or with canvas cloth a few inches above the surface of the soil.

* * *

CRACKED PRUNES.

A subscriber at Santa Rosa writes stating that the crop of prunes thereabouts will not be more than half a crop and fears that even of these many will be injured by cracking or splitting open. Many of these often split open clear to the seed. He wishes to know cause and whether he can prevent it. Soil is aparently the same as in surrounding orchards where there is little or no splitting.

This is the first we have heard of a case existing like this. That is, of one orchard being very bad and others showing but little if any of this trouble. It is usually claimed to be caused by the condition of the atmosphere. That is, a moist, humid atmosphere causing the trouble while a drier condition leaves the fruit exempt. Why one orchard should show it worse than another we are unable to say. So far as we have heard, there is no treatment for this trouble other than that the moist condition of atmosphere be changed for a drier condition. This, we understand, has occurred to the queen's taste in all sections of the State since our inquirer sent his request for information. There will probable be no more splitting of prunes this season.

* * *

MARKET QUOTATIONS.

Editor Cultivator:—In your market quotations are the prices quoted those which the wholesale men would pay us if we should ship to them, minus the commission? Or are they the wholesale price to the retail trade? To illustrate: Onions, silver skins, 60@75" means that they are from 60 to 75 per 100 lbs. "Cabbage, per sack, 25@40." What constitutes a sack; is it a sack used for sacking grain and are they sewed up like a sack of grain or are they gathered and tied up?

"Bell Peppers, 15@20" means per lb., does it not? Cucumbers, per crate, 75@1.00. Does a crate of cucumbers, tomatoes, etc., weigh the same, and what is the weight? Also, "Rhubarb, per box, 40." What does a box weigh? Also, peaches, apricots and figs, per box; what is the weight of a box? Cantaloupes (San Francisco market) per crate, small, 50@60." How large is the small crate, and also the large?

Tomatoes are quoted per box or crate, $1.25@1.75. Are they the same size? Also in shipping bell peppers, green, what would be the best way to ship, per box or crate?

We bought some onion seed and it was very badly mixed. We would like to obtain some of the very best Australian Brown, Prize Taker, New Queen, W. Bermuda. We hope that perhaps some of the readers of the paper will know where we can obtain first-class seed.

Where may I sell broom corn?—Subscriber, Yuma.

The prices quoted under either Los Angeles or San Francisco are those paid to producers so far as we can secure them. That is, as you say, less the commission. The Los Angeles markets are corrected each week by various firms at the Los Angeles market, corner Third and Central avenue. Where 60c is the selling price to wholesalers in a sack of onions, the 60 cents, less freight and commission, is paid to the producer of the onions. So it is in one sense, wholesale price to the retail trade, also price to the producer.

"Cabbage per sack" means a common barley sack filled "considerably more than full." That is, the cabbages are packed in as tight as possible even with and even above the top of the sack, the sides of the sack remaining perfectly straight, being no opportunity for gathering together and tying or even sewing together as with grain. Then the sacking twine is used to draw over the top of the protruding cabbages, which bulge far beyond the edges of the sacks and thus hold the cabbages in, the twine being woven back and forth for that purpose.

As to the weight of the sack, it would be impossible to say, for it depends upon the solidity of the heads. Therein comes the variation in quotation. That is, a "light" sack would probably be filled with cabbages not filled out and firm, consequently would sell for the lower quotation, namely, 25 cents, while a sack of solid heads would readily command the 40 cents.

Bell peppers, .15 to .20, or more correctly .15 to .18 as it is this week, means per pound, and the best way to market them is simply to sew up in barley sacks and ship to market. These are also filled very full so that the stuff may readily be seen through the open end of the sack. Of course this is not a vital factor, because of the fact that they are sold by actual weight.

Cucumbers are quoted early in the season by the dozen, going as high in midwinter as $1.50 a dozen. Later they are quoted by the "crate" which, during the high prices, means the ordinary twenty pound fruit crate. Later as they become more plentiful a "crate" means a thirty pound picking box.

Here we may mention that there are two general sizes of crates in which fruit is marketed. The larger of these has an inside measure of six inches deep by fourteen by sixteen and a half with cleats across the top of the end. This is sometimes called the thirty pound orchard picking box and when all fruit is cheap it is quoted in this size picking box. When it is high priced and scarcer, it is usually quoted by the twenty pound crate which is a little smaller box four and a half inches deep, eleven and a half by eighteen and a half inside measure. This size crate has no cleat across the top but usually has cover nailed on. For grapes these are filled with four "baskets" each supposed to contain about five pounds. Therefore cucumbers from now on through the season will be quoted by the larger or thirty pound fruit crate.

"Rhubarb per box" means a box about the size of the ordinary apple box, which will contain about forty pounds as ordinarily packed. This, at present quotations, would mean the rhubarb is about one cent per pound. Cantaloupes, when quoted per "small crate," or "special," means the size of crate which will hold about sixteen of average sized cantaloupes. "Ponies" hold fifty-four of the same size melons, and another sized crate, slightly smaller than the ponies, holds forty-five melons. Tomatoes, like other products, are usually quoted in the twenty pound box, but now, as they are becoming rather more plentiful, often appear in the thirty pound picking box. The wide range which usually prevails in the quotations of tomatoes is not because of the difference in size of boxes but because of the great difference in quality. There is often a difference of more than fifty per cent in price of two boxes of tomatoes, caused by smooth, even-sized, ripe fruit on the one hand, and a conglomerate mess of green, ripe, various-sized fruit on the other.

GREEN FRUIT SHIPMENTS.

"One of the greatest years for green fruit shipments in the history of the State" is the present estimate of conservative fruit shippers. This is contrary to the earlier season estimates for the shortage of cherries was so exceedingly great that it was feared the entire season would be most disappointing. In this respect it is, of course, to be regretted that cherries are the most valuable output of the State in the matter of fruits and represent the greatest value per car. For instance, two cars shiped this year from San Jose realized a total of $5342 for one, and $5156 for the other. These are said to be the highest prices ever obtained for green fruits of any kind. Besides that, cherries made the record sale at the opening of the season of $100 per box, or $10 per pound, which was, of course, paid for advertising purposes.

The total number of cars of cherries shipped this year was, up to the end of June, 78¼ cars. This, not considering price, is not a good showing for last year 207 cars were shipped up to the same date, and the year before 208¾ cars. But with other deciduous fruits, this showing is entirely changed. For instance, apricots this year, 279 cars; last year, 93 cars, the year before 222½; peaches, 284 cars; last year 93¾, the year before 128½; plums make the biggest gain, however, showing a grand total of shipments up to June 30th of 542, as against 118 last year and 224 the year before. Notwithstanding the fear that the pear output of the State was wiped out by the blight, the shipments this year nearly doubled those of last year, being four cars as gainst 2½ last year and 2¾ the year before. Of course, the pear season is not yet fairly on.

Predictions of some shippers are that the total output of table grapes this year will be from 2000 to 2500 carloads. Last year's output was 1395 while that of the year prior was 1785 and that of 1902 1017 cars.

These statements give color to the claim of some that a total income to the State this year from green fruit shipments will exceed that of any other year.

Apple Land For Sale

Elevation, 2500 ft.; Acres, 800; Price, $17,000
None better in all California. Foothill land, part level, part rolling. Soil, deep disintegrated granite. Water, abundance can be developed. Address

Manzanita Ranch Co., Owners
215 American National Bank Building, Los Angeles, Cal
When writing advertisers mention Cultivator.

Lime Your Lands

LIME, $2 PER TON
MANURE, 45c PER TON
Time to buy. For particulars write
H. B. MATTHEWS, Riverside, Cal.

The Green-Marshall Co.

Manufacturers and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297
Pasadena, Cal.
When writing advertisers mention Cultivator.

Blue Gums

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity

Geo. B. Warner, Santa Ana, Cal.
When writing advertisers mention Cultivator.

FOR SALE AT A BARGAIN

Eighty rods west of Ceres, Cal., and 100 rods from Ceres Creamery, convenient to church and school, 20 acres of choicest fruit and alfalfa land, 6 acres to alfalfa, 4 acres ready to seed, 5½ acres checked and partly leveled, barn with two living rooms attached, a well with best of water, 8 tons alfalfa, 2 tons wheat hay, a span of good young mules, harness and wagon, a McCormick mower and rake, plow, cultivator, Fresno scraper, and many other tools, fence posts and wire, 2 high grade Jersey cows, 1 pure bred Jersey cow, 1 heifer calf, 75 Buff Orpington chickens, 2 pigs 100 lbs. each, all for $4,000.

F. M. GRAY - CERES, CAL.

ROYAL FRUIT PITTER

FIRST YEAR ON MARKET
Remarkable for simplicity, speed and accuracy of work.
To reliable parties we will ship one or more of these machines upon receipt of $25,00 cash, for each one ordered. If after one day's thorough trial machines should prove unsatisfactory, return immediately to us in good condition and said advance money will be refunded. If it is desired to retain machine forward $75.00 additional (total $100) for each machine. If it is desired to rent the machines for this season only, send us $10.00 additional (total $35.00) for each one rented. Parties ordering machines on trial must state whether they expect to buy or rent, as we will only have a limited number to rent. All who can are urged to call and see our machines in operation.

ROYAL FRUIT PITTER CO.
210 Franklin St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

PLANTING A TREE.

What does he who plants a tree?
He plants a friend of sun and sky;
He plants a flag of breezes free;
The shaft of beauty towering high;
He plants a home to heaven anigh
For song and mother-croon of bird,
In hushed and happy twilight heard—
The treble of heaven's harmony—
These things he plants who plants a tree.

What does he plant who plants a tree?
He plants cool shade and tender rain,
And seed and bud of days to be,
And years that fade and flush again;
He plants the glory of the plain;
He plants the forest's heritage;
The harvest of the coming age;
The joy that unborn eyes shall see—
These things he plants who plants a tree.

What does he plant who plants a tree?
He plants, in sap and leaves and wood
In love of home and loyalty,
And far-cast thought, of civil good—
His blessing on the neighborhood,
Who in the hollow of his hand
Holds all the growth of all our land—
A nation's growth from sea to sea
Stirs in his heart who plants a tree.

Richard Watson Gilder.

A Mental Catastrophe.

"I was perfectly sure I had never seen the place before. So far as I could make out by the aid of a single light which burned above me. Suddenly, without any volition whatsover on my part, I found myself to be in what appeared to to my inexperienced eyes a kind of subterranean passage from which I could discover no possible means of exit.

I suppose it did not really matter, since there seemed to be no way out of what was fast becoming to me like my preconceived notions of the infernal regions, but it did not serve to add anything to my grim enjoyment of the novel situation to find that I was held fast in some sort of greenish colored seat placed hard against a solid wall of slate or stone. I refer to the color because, although green, I believe is said to have a particularly cooling effect upon the eye, I have a strong aversion to it, and the mere sight of it, even upon an ordinary occasion, except in the adornment of nature, is alone sufficient to produce a most disagreeable impression upon me.

However, this I decided was no ordinary occasion; and my unpleasant sensations were further augmented by transitory appearances of a hideous grinning female, who was also garbed in green.

My first cheering thought was that, without a doubt, I was about to pay the death penalty in the electric chair for what was to me as yet an unknown crime. But this idea was quickly routed by the discovery of a third person in the weird place, who seemed to be taking perfectly fiendish joy in flourishing all sorts of terrible looking instruments about my head and face.

Listening intently I could hear him laugh in almost noiseless diabolical glee, and heard him say distinctly, "More yet to come," when I found to my intense horror, after a twinge of pain sharper than any I had ever before in all my life experienced, that my head had been closely severed from my body, and was lying on a stand close by. And as if that were not enough, this remark of his further enlightened me that I had suddenly become a kind of hydra-headed monster, with no one knew how many heads to cut off. That my tornemtor was bent on having them all was proved by another horrible twinge of pain, and the gratifying sight of another of my heads lying neatly alongside the other.

Like an inspiration a thought came to me. When one is in such a predicament as I was he or she will most surely clutch at the proverbial straw. What I had not before noticed was a huge phial of some colorless liquid within reaching distance of my left hand. It was labeled, chemical fashion, in symbols, but what it really was I could not determine. Still it was not to be wondered at that I should have found my mental apparatus somewhat impaired and my knowledge of the sciences rather hazy after the loss of so many heads.

Dominated all the while by the thought that it might fortunately prove to be some acid that would put out the eyes of my dreadful assailant, and so prevent him from severing my last head, should any happily remain, I made one gigantic effort and threw it with all possible force. I suppose my aim was not true. At any rate, I missed him! Still it was some sort of satisfaction to know that a goodly portion of it landed upon the hated grinning female, the sight of whom I so detested.

I found syself dimly wondering what would happen next, when I looked up and saw the kindly face and twinkling eyes of my father-in-law, still holding in his hand a pair of shining forceps, while on a small table close beside me—they were all there, biscupids, and molars—all those teeth that for months past had been bothering me so.

"Didn't give you quite enough gas, did I? Felt it some, eh, John?

"But a deuce of a mess you've made of your wife's gown." He smiled genially.

"Yes," chimed in my wife, "here I've been wanting a new dress all the spring and you declaring you could not afford it, when you must needs go and take gas for all those horrid teeth to be out, then say and do all sorts of funny things, the last of which is to throw acid on my best gown, so that a new one for Easter is now a positive necessity."

But I had no word of complaint to offer, so overjoyed was I to find those wretched teeth were out and that same and only head on my shoulders, just where it had always been, showing no present signs of decapitation.—Boston Post.

One man makes a road, and another walks on it.

He—But what does your father see in me to object to? She—He doesn't see anything in you. That's why he objects.

HOMELY HINTS.

Ironing Hints.—The doing up of fine underlinen is far more important in these days than ironing a shirt, and a good living awaits the woman who cares to learn this art and practice it in the cities. When these articles are washed and dried the ruffles and trimming should be dipped into weak starch and rolled down tightly, keeping all starched and fine portions inside. Iron in about an hour.

First of all, iron the sleeves, then the ruffles first, and then the body part. Any crimping or fluting must be done last of all, after slightly dampening the ruffles over again. When ironing circular ruffles always iron "with the thread" of the goods and the ruffles will not sag.

For white skirts and for dresses, a skirt board is a necessity; it should be about fifteen inches wide at the bottom and narrow down toward the top to about nine inches, and should be about five or five and a half feet in length. It is much better to purchase the folding skirt boards, being less expensive than having a carpenter make one.

Cover first with an old blanket, folded double, and then with a length of white muslin. Tack the blanket into place underneath, but merely pin the muslin cover to the blanket.

By pinning this very closely together the pins will hold the muslin cover smooth, and it is an easy matter to change it every week.

If one doubles a petticoat from front to back, in order to save labor, always smooth the front, or iron only to the fold; then open the skirt and smooth the front, as leaving this fold in is apt to make the skirt stick out in front when it is worn.

A very little board, long and narrow, with a pointed end, is useful for ironing shirt waist sleeves, shirt bosoms and many small places in children's garments, and this can be easily made at home and covered.

Sheets are generally ironed double, and they should be folded lengthwise, for this is exactly opposite to the way they are hung upon a line; it distributes wear and makes them last longer.

* * *

Chloride of lime should be used about the house and outbuildings during the summer. It will drive rats out of the cellar at any time of the year, and in summer its use about a house will do much to keep away flies.

If the cover of a fruit jar sticks, do not attempt to wrench it off; simply invert the jar and place the top in hot water for a minute. Then try it, and you will find it turns easily.

HOW LONG A BRIDE.

A woman may know that she has ceased to be a bride only:

When she finds herself saying uncomplimentary things to her husband.

The first time her husband criticises her frocks.

When he grows economical with his kisses.

When she begins to nag.

When he becomes sarcastic about the food.

When she does not mind coming to breakfast in curl papers.

When he tells her how pretty some other woman looks.

When a meal becomes so quiet that she can plan a whole frouck between the courses.

When he begins to go out to his club.

When she begins to hunt up her old friends and enjoy calling on them.

DON'T BE SHIFTLESS.

Don't get into a shiftless habit of reading or thinking, or doing things. Keep snugged up in your mind and habits. Get into the habit of being prompt with your work and in paying your debts. Don't acquire the loose, helter skelter, shiftless way of looking at things and doing things. If you are shiftless, you will be poor. There is no help for it, you will be poor. Poverty invariably follows shiftlessness. It is the man who is orderly, neat and snug about his farm work that keeps control of his work. Shiftlessness of habit comes from having a loose, untrained and unorganized mind. "As a man thinketh in his heart, so is he."—Country Gentleman.

THE CHERRY TREE WAS A CHESTNUT.

George Washington—"Mistress Curtis, Martha, I love you! I would tell you the old, old story. I—"

The Widow Curtis—"Oh, George, please spare me that cherry-tree incident."—Woman's Home Companion.

AN UNFAILING SIGN.

"Doctor," queried the inquisitive person, " do you believe that the cigarette habit causes weak minds?"

"Not necessarily," replied the M. D. "As a rule it merely indcates them."

THE STAR OIL BURNER
ITS OWN GAS MAKER
(Patentees N. L. Rigby and S. S. Sprague
This Burner is offered to the public upon its merits. It is not an experiment, but a practically tested and successful invention. It has no superior for safety, simplicity, economy and durability. It is made without bolts, screws or rivets. It makes a pure dydro-carbon gas from low grade distillate oils, and gives you a fire as bright as the stars. Free from soot and smoke.
STATE AND COUNTY RIGHTS FOR SALE
For terms on burners or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation
When writing advertisers mention Cultivator.

$72.50

To Chicago and back, with similarly low rates to other Eastern points.

Tickets on Sale:
May 27, 28, 29.
June 12, 13, 14, 15, 16, 17, 25, 26, 27, 28, 29, 30.
July 4, 5, 6, 24, 25, 26.

These tickets are good 90 days and are also honored on the famous
CALIFORNIA LIMITED

Ask the Santa Fe Agent

When writing advertisers mention Cultivator.

A HOUSE-CLEANING SONG.

Can you sing? Then sing
A house-cleaning song,
To make the house ring
When tempers go wrong;
Sing something bright,
Or say something funny,
For all will go right
When tempers are sunny.

Don't wear your worst gown,
Or tie up your head;
Don't carry a frown—
A picture to dread;
House-cleaning is fun
If taken that way,
So let in the sun
And be merry and gay.

One room at a time—
Be not in a hurry;
Do not repine,
Nor get in a worry.
Scrub just as you please,
And in your own way—
It's nothing to you
What the neighbors may say.

Have a dinner that's nice,
And take time to eat—
To starve the whole household
Will not make them neat;
Have a good time,
Instead of a fit—
I'm penning this rhyme
While resting a bit.

—Annie A. Preston.

AN ESSAY ON GRUMBLING.

Your grumbler never gets on. Nature in a sarcastic mood seems to have ordained that the persistent whiner shall want for everything except something to whine about.

The whine is a signal call to a thousand and one little demons of distress and disaster, which mock and lash, hinder and dishearten.

There is nothing else you can look for with so much certainty of finding it as trouble.

But have you never noticed that most of your troubles are of tomorrow, that few of them are really present today, that there are hardly any worth mentioning in all your past?

If anticipation did not go more than half way to meet troubles most of them might miss their way and never get near you.

He who whines does himself injury such as his meanest enemy could not do to him if he would. He warps his own mind; he weakens his own arm; he enervates his own strength; he deadens within himself the divine gifts of cheer and hope, and he dams up his own soul against the sweet insiprations of human sympathy.

Never yet did success worthy of the name abide with a man with a whine in his heart.

A whine is premeditated and prearranged failure.

A whining voice means a whining character. It is a mark of weakness too inexcusable even to excite pity. The broadest charity shrinks and draws back the hand at sound of a human whine—a sound more disgusting and dismaying than the hiss of a snake.

They say that one of the things you can not make or alter is environment—that it is fixed, inflexible, and that you are its slave. This is a pessimistic lie.

To our own moods environment is a looking glass; it smiles back at us if we smile; if we frown, it frowns.

He who thinks the world is full of good people and kindly blessings is much richer than he who thinks the contrary. Each man's imagination largely peoples the world for himself. Some live in a world peopled with princes of the royal blood; some in a world of paupers and privation. You have your choice.

This is a big, busy world. It cares precious little what you think of it or what faults or troubles you find in it. It is a choice that concerns yourself more than all others combined, whether you grouch in the gloom, the companion of hateful goblins, or stride in the sunshine, seeing smiles and catching shreds of song.

Men and women in God's image were not made as whining, groveling things. They are made to stand erect, mentally as well as physically; to labor well and joyously; to take the gifts of Providence, whether they be joy or sorrow, and bear them cheerfully and with courage; to add ever something to the world's store of happiness, if it be only a smile.

If you would win anything, do anything, be anything, don't whine.

LAMPS.

Every good housekeeper takes pride in caring for her lamps and keeping them in the best possible condition. Lamp flues can be hardened and rendered less likely to break by putting them in a pailful of cold water, and allowing it to heat gradually. Boil them ten minutes, cool slowly and they will be ready for use. A little hay or straw should be put in the bottom of the pan to prevent breaking the flues should not touch each other.

A clear light is not only pleasant to look at, but is better for the eyes than a dull flickering one, and it is impossible to have clear lights unless the flues and burners are kept clean and bright. Wash the flues every morning if the lamp has been used the night before, and wipe dry with a soft cloth that will leave no lint. Keep them full of oil. An excellent method of cleaning the burners is to dissolve some strong detergent in a quart of water. Boil the burners in this ten minutes, after which wipe them with a cloth, and they will look like new. This should be done at least once a month, and if you begin when the burners are new, they will not tarnish nad turn black, as many do after using them a while. This treatment will keep the small tubes on each side of the wick clear of the gummy substance that collects in them, improving the light and lessening the danger of explosion.

A lamp shade is a great convenience when one is reading at night, and it saves the eyes wonderfully. Crepe paper makes pretty shades and is inexpensive.

SOME WAYS OF WOMEN.

If the house catches fire a woman wants to save her old love letters and the baby's first pair of shoes.

A woman goes to an afternoon tea in the same state of excitement as a man does to a horse race.

If you try to whisper to a girl she acts as if she were afraid she might try to kiss you against her will.

Most men are willing to let their wives train the children, but they insist on training the dogs themselves. This last position is very reasonable. No man ever knew anything about babies, but the dog is a kind of fellow creature to him.

Love is not getting, but giving; not a wild dream of pleasure and a madness of desire—oh, no, love it not that—it is goodness and honor and peace and pure living—yes, love is that; and it is the best thing in the world and the thing that lives longest.—Van Dyke.

Cookery Recipes

Halibut Cutlets.—Grate some stale bread, crust and all, and allow it to become thoroughly moistened in boiling milk; press the milk from it and add a cupful of minced halibut (uncooked); then add half a cupful of butter, three eggs, half a teaspoon of anchovy sauce, and a teaspoon of lemon juice. Mix thoroughly, make into cutlet forms and fry very brown in hot lard.

* * *

Soup Maigre—Cut into dice and fry in two tablespoons of butter, one carrot, one white potato, a stalk of celery, one parsnip and a large Bermuda onion; when nicely browned add a tablespoon of minced parsley and two quarts of water; cover closely and simmer slowly for two hours; season with a scanty teaspoon of salt, a saltspoon of paprika and half a cup of tomato catsup, allowing it to boil for five minutes after the last ingredients are added; strain and serve in boullion cups with toasted saltines.

* * *

Baked Bananas—Cut in half lengthwise. Put in baking dish, sprinkle over some granulated sugar and bake a chestnut brown. A little lemon or orange juice may be poured over if desired.

* * *

Cheese Toast.—Mince cheese finely, season with mustard, cayenne pepper and salt. Spread on buttered bread and set in hot oven to brown. Serve at once.

* * *

Potato Fillets.—Select long potatoes, pare and cut in fillets one-fourth of an inch square and drop into ice water. Then partially cook in boiling drippings. Remove and strain. Bring the drippings to boiling point again, drop in the fillets and cook until done. Dust with pepper anl salt.

* * *

Rhubarb is the spring fruit par excellence in the majority of households, and yet it is really a vegetable. For most people it proves exceedingly wholesome. In preparing rhubarb for the table do not peel unless the stalks are old, tough and rough. The tender pink skin cooks as readily as the flesh and gives, besides, the pretty color that tempts the eye. Never cook in tin nor in granite, unless of an excellent quality. Earthenware or the porcelain lined saucepans are best. Use little or no water in its cooking, as the juice of the plant makes sufficient syrup. In stewing, cut in inch pieces, allow two cups of sugar to one pound of rhubarb, arrange in layers in an earthen pipkin or porcelain lined double boiler, and cook without stirring in the oven or on the stove until the sugar is dissolved and the fruit tender. Cooked in this way the fruit pieces will keep whole and distinct in the clear, pink syrup.

NAMES OF TEXTILES.

The names of fabrics are in many cases derived from the place where they were first manufactured; in others, the name is bestowed in honor of the place where it first became known to commerce, or from the materials composing its texture. Thus the name muslin is derived from Mosul, in Asia.

Cambric comes from Cambai; gauze from Gaza; baize from Bajac; dimity from Damietta, and jeans from Jean.

The name damask is an abbreviation of Damasacus; satin is a corruption of Zaytown, in China.

Velvet is the Italian "vellute," woolly, and is traceable further back to the Latin vellus, a hide or pelt.

Serge comes from Xerges, the Spanish for a certain sore of blanket.

Bandana is derived from an Indian word signifying to tie or bind.

Alpaca is the name of a species of llama from whose wool the genuine fabric is woven.

Calico is named for Calicut, a town in India, where it was first printed.

USES FOR LEMONS.

Two or three slices of lemon in a cup of strong tea will cure a nervous headache.

Lemon juice (outward application) will allay the irritation caused by the bites of insects.

A teaspoonful of lemon juice in a small cup of black coffee will relieve bilious headache.

A dash of lemon in plain water is an excelent tooth wash. It not only removes tartar, but sweetens the breath.

Lemon juice is better than any drug or complexion powder for giving permanent clearness and beauty to the skin.

The juice of a lemon taken in hot water on awakening in the morning is an excellent liver corrective, and for stout women is better than any anti-fat medicine ever invented.

"Your winter flnannels don't you doff
Until it's nearly June,
For lots of folks are taken off
Bytaking off too soon."

WE GUARANTEE THE
White Lily Washing Machine

To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL.

White Lily Washer Co.
1535 Rockingham Rd. DAVENPORT, IOWA

When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

ROCKWOOD IN CHARGE.

The Imperial Development Co., which is the parent corporation of the immense Imperial irrigation systems, has, since the transfer of the principal holdings from former President Heber to the Southern Pacific Co., taken most decided steps for great improvements of this great system within the next few years. Rockwood has been made assistant general manager, with offices at Calexico. This year the embarrassment has not been in the shortage of water, but in the large quantity which could not be controlled, and has kept the canal full at all times. Probably one of the first extensive improvements which will be entered upon will be the construction of new head gates at the Colorado river, which will aid in controlling the supply.

Regarding some of the matters to be settled by the new management, the Imperial Press speaks as follows:

It is the purpose of the new management to take up and settle every one of the matters that have been in controversy between the Imperial Water Companies and Imperial valley settlers, and the California Development Company. This will doubtless include a new deal in Water Company No. 8, a settlement for damages for crop failure on account of water shortages, and just treatment for Water Company No. 5. In the hands of the master minds now guiding the course of the California Development Company it can be confidently predicted that all these matters will be soon adjusted and a spirit of fraternal co-operation pervade the forces now united for the upbuilding of our beloved Imperial Valley.

SMALL FARMS MADE TO PAY.

In Denmark there are 224,000 rural landowners. More than half have not more than one acre, 96,000 have less than four acres, and only 2,000 have more. The small landowners mainly occupy themselves wtih the egg and fowl industry.—Northwest Horticulturist.

To prevent milk from curdling in oyster soup, first boil the oyster liquor and skim thoroughly, then add the milk to it with the desired thickness, butter and flour rubbed together. Watch it carefully, and the moment it bubbles add the oysters, stirring constantly and carefully with a wooden spoon, until the scalding point is again reached. Take it from the fire and add the seasoning.

Some housekeepers always make a point of buying their soap in large quantities, as they say it improves with age.

It is not generally known that ordinary pulverized charcoal is an excellent preventive of typhoid and yellow fever. Stir plenty of the charcoal into a cup of syrup, and take a teaspoonful three times daily. After each dose take a pinch of salt. This is an excellent medicine to ward off the dread disease, simple, yet effective, and used by an eminent physician when visiting his fever patients.

In making good butter there is always plenty of time to do everytaing just right; if you find there is not time, then you are not making good butter.

Dairying is a question of feed as well as of breed.

Los Angeles Markets.

Los Angeles, July 13, 1905.

Butter.

Butter still stands at last week's quotations with a very firm feeling prevailing. The shipments have materially fallen off, even those from the upper Coast counties being much lighter than before. Receipts are now about two-thirds what they were thirty days ago.

B. of T. Creamery 50
Valley Creamery, fancy 50
Coast Creamery 45
Fancy Dairy 45
Cooking, per lb .....17@18

Cheese.

Cheese has been more plentiful, lowering from one-half to three-quarters of a cent. This is especially true of Anchor brands and some sellers have claimed that the reduction was in order to keep out shipments of outside stuff. A carload of fancy Wisconsin was received on Tuesday and at once placed in storage.

Cal. 3-lb. hand 15¼
Cal. Young America 14¼
California Anchor 13¼
Northern .....12½@13
Full Cream 16
Domestic Swiss 16½
Imported do 27½

Eggs.

There is a slight shading in the quotations on eggs though very firm condition prevails at present in market.

Eggs, fresh ranch 22
Eastern .....19@20
Storage .....19@20
Northern 19

Poultry.

Poultry continues in liberal receipt, with much stock going into cold storage. Prices remain stationary.

Fryers, 2½ lbs 15
Broilers, under 2 lbs, per lb 15
Young Roosters, per lb 14
Hens, per lb 12½
Ducks, per lb 11
Turkeys, per lb .....17@18
Geese .....10@12

Live Stock.

The following quotations are f. o. b. Los Angeles, on all stock:

Hogs, 200 lbs per cwt 6.25
Prime Steers, cwt 4.00
Cows, cwt 3.00
Calves, cwt 4.75
Sheep, ewes, per head 3.50
Lambs, do 3.00
Wethers, per head 4.00

Potatoes.

New .....75@1.25
Sweets, white 1.00

Vegetables.

Onions, yellow, per cental .....75@.85
Onions, Silver Skins, clt .....60@75
Onions, Texas Bermudas 1.50
Beets, per 100 lbs 75
Cabbage, per sack .....25@40
Lettuce heads, per doz .....12@15
Lettuce heads, per doz .....15@20
Parsnips, per sack .....60@65
Bell Peppers .....15@18
Cucumbers, per crate .....25@40
String Beans .....1@1½
Wax Beans .....1½@2
Green Onions .....25@30
Carrots, doz. bunches .....25@30
Turnips, doz. bunches .....25@35
Garlic 20
Peas, per lb .....4@5
Rhubarb, per box 40 lbs 40
Egg Plant .....4@5
Chile Peppers, green .....10@12
Chile peppers, dry 15
Tomatoes, local .....1.00@1.50
Asparagus .....8½@10
Parsley, per doz bunches.....30@40
Summer Squash, per bx 20 lb. 20@35
Green Corn, per sack .....1.00@1.25

Citrus Fruits.

Navels, fancy .....1.50@1.75
Lemons, standard.....60@75
Lemons, fancy .....1.25@1.75
Grapefruit 1.00
Grape Fruit, seedless 2.25

Fresh Fruits.

A few Seckel pears are being received in the local market but as yet are too green to command any reasonable quotation.

Strawberries .....3½@4
Cherries, per lb .....12@15
Dewberries 3 1-3
Apricots, per box .....25@50
Peaches, per box .....50@75
Figs, per box .....50@65
Blackberries .....3@3½
Muskmelons, Ponies 1.25
Do, 45s 1.50
Watermelons, per lb 1½
Grapes, Thompson's Seedless 1@1.25
Apples, Astrakans .....1.20@1.50
Plums, ...40@1.00
Nectarines 65

DRIED FRUIT.

There is but little activity in the dried fruit market as yet, buyers claiming that the price will range from five to six cents on 'cots.

Beans, Dried.

Limas 4.50
Pinks, fancy .....3.65@3.75
Pinks, rain damaged .....2.50@3.00
Lady Washington .....2.75@2.85
Small Whites .....3.15@3.35
Black Eyes .....2.50@2.75

Nuts

Almonds, paper shell .....18@20
Almonds, soft shell .....18@20
Peanuts, California .....5@6
Peanuts, Eastern .....7½@9
Walnuts, No. 1 softshells .....14@15
Walnuts, hardshells .....10@12

Honey.

Honey, comb, frames .....10@15
White, strained, per lb .....5@6
Amber .....4@5
Beeswax .....23@25

Hay.

Barley, new .....$7@9
Alfalfa, local new .....$10@11.50
Alfalfa, northern .....10@11.50
Wheat, new .....10.00@11.00
Tame Oat, new .....$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat .....1.50@1.55
Barley .....95@1.00
Corn .....1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran $1.20
Feed Corn Meal $1.60
Middlings $1.35
Cracked Corn $1.55
Corn $1.50
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

San Francisco, July 13, 1905.

DAIRY.

There has been a sharp increase in quotations on butter, every available parcel now appearing being quickly marketed at usually top quotations. There have been instances where even advance of the following quotations have been secured.

BUTTER—Per lb:

Creamery, fancy 21
Creamery, good to choice.19 @20
Dairy, choice .....17 @18
Store 16

CHEESE—

Cheese is in large supply and market rather easy, notwithstanding the quotation is nearly one cent higher than last week.

CHEESE—Per lb:

Cal. Creamery, mild new, ex.11
Do, choice .....9 @10
Young American .....12 @13
Eastern, N. Y., Cream .....17 @18

EGGS.

Eggs are becoming more scarce, one cent in advance of quotations being sometimes secured for extra selections.

EGGS—Per doz.:

EGGS—Per doz:

Ranch, selected, large 23
Ranch, good to fancy .....21 @22
Store .....16 @17
Eastern, firsts .....18 @19
Eastern, seconds .....16 @17

POULTRY.

POULTRY—Old Roosters, per doz., $4@5; young Roosters, $6.50@7.50; Fryers, $4.50@5; Broilers, $2.25@3.50; Hens, small, $4.50@5; large, $5.50@6.50; Live Turkeys, per lb, 18@21c; Spring Turkeys, 24@28c; Ducks, old, $4@4.50; young, $4@4.50; Geese, per pair, $1.50@1.75; Goslings, $1.50@1.75; Pigeons, per doz, old, $1.25@1.50; young Pigeons, $1.50@1.75.

FRESH FRUITS.

Apples, per box, fancy, $1@1.50; common to choice, 50@75c.

Apricots—Per box or crate, 25@65c; bulk, per ton, $10@25.

Figs—Per large box, 75c@$1.50; small box, 50@75c.

Pears—Per box, Bartlett, No. 1, $1.50@1.75; common, 75c@$1; other varieties, 50c@$1.25.

Peaches—Per box, 40@75c; carriers 90c@$1; basket, 40@65c; large boxes, 85c@$1.25.

Plums and Prunes—Per small box, or crate, 40@75c; as to variety; large boxes, $1@1.50.

Nectaries—Per crate, White, 50c; Red, 75c@90c.

Grapes—Per crate, Seedless, 75c@$1.25; Black, 75c@$1.

Cantaloupes—Per crate, $1.25@$2.25; Watermelons, per lb, 1½@2c; per doz, $1.50@3; Nutmeg Melons, $1@$1.50.

Blackberries—Per chest, $2.50@4.

Currants—Per chest, $4@5.50.

Loganberries—Per chest, $3@5.

Strawberries—Per chest: Longworths, $2.50@5; large varities, $2.50@3.50; Santa Clara berries, $2.50@4.

Huckleberries—Per lb., 12½c.

VEGETABLES.

VEGETABLES—Asparagus, per lb, 3@4c; Tomatoes, small box or crate, $1@1.25; large box, $1.75@2.25; Green Peppers, per box, $1.50@2; Dried Peppers, Southern, per lb., 10@12½c; Stockton, 11@12c; Okra, per lb, 12½@15c; Beans, per lb, Green, 1@2c; do, Wax, 1@2c; Green Peas, per sk, $1@1.50; Cucumbers, per box, $1@1.35; Summer Squash, per box, 25@50c; Egg Plant, per box, $1.50@2; Garlic, per lb., 2½@3½c; Green Corn, per sk, 50c@$1; per crate, $1@1.50.

POTATOES—Per ctl: River Burbanks, in boxes, 90c@$1.25; in sks, 50@85c; Early Rose, 50@75c; Garnet Chile, 50@75c.

ONIONS—Per sk: New Red, 40@75c; Yellow, $1.25@1.35.

DRIED FRUITS.

Quotations on dried fruits are almost impossible to secure. In futures on prunes the growers are still strong in their demand for three cent basis, some even holding for three and a half. Apricots are quoted at seven and a quarter and seven and a half for extra fancy stock, with some quotations for indifferent goods running as low as five and a quarter.

HONEY AND BEESWAX.

HONEY—New crop, Comb, per lb, 10@11c; Extracted Water White, 6@6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

HOPS.

The price of desirable stock is nominal at 24@27½c per lb, according to quality, many producers demanding thirty cents.

LIVE STOCK.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@5½c; rough heavy, 4¼@4½c; common, 3½@4c.

HAY AND FEEDSTUFFS.

HAY—Per ton: Wheat, $10@14; Wheat and Oat, $9@13; Oat, $8@12; Barley, $7@10; Clover, $7@10; Alfalfa, $7@10; Stock, $5.50@7.50. New crop Wheat, $9@13.50; Oat, $5.50@11, Wheat and Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice Grades per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $22.50@23.50.

MIDDLINGS—Per ton, $25.50@28.50.

FLOUR AND CEREALS.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 shipping, per ctl., $1.50@1.55; White Milling, good to choice, $1.57½@1.65.

OATS—Good to choice, White, nominal; Red, $1.22½@1.30 for new crop.

BARLEY—Choice No. 1 Feed, $1@1.05; off grades, 96¼@98¾c; Shipping and Brewing, nominal.

CORN—Good to choice, per ctl., California, new, large Yellow, $1.40@1.45; small do, $1.47½@1.50; White, $1.37½@1.40; Eastern, Yellow, $1.37½@1.40; White, $1.37½@1.40; mixed, $1.35@1.37½.

RYE—New, $1.40@1.47½.

CITRUS MARKETS

NEW YORK.

Total shipments during last week were still further reduced, showing an aggregate of 60 cars at auction in New York market as against 71 for the week prior and 65 for the week preceding that. Supply was slightly more than the midsummer season, with its large supply of deciduous fruits could carry to the best advantage, and there was a slight decline on sound fruit, while much of that with heavy decay brought practically nothing. Navels practically out of the market. Valencias commanding the principal attention. The few navels which are in market at the present time are the cold storage supplies, handled in a local way only.

About 50,000 boxes of imported lemons were offered during the week. The hot weather increased the demand for these so that sharp advances were maintained. Californias also advanced under this stimulus until $3 to $3.60 were readily obtained for the more desired sizes.

At Monday's auction 16 cars were sold. The bidding was rather brisk, the hot weather proving a stimulus to the entire market. The serious drawback of fruit in bad condition was a bad handicap. Bidders took little fruit as possible, working from hand to mouth basis. Valencias were the favorites, some fancy fruit even commanding very high prices. Lemons were firm, tending upwards.

Some quotations were: Valencias: Coyote, ch, O-C Ex, $2.65; Royal Knight, xf, S B Co Ex, $3.50; Bear, xf, O-C Ex, $3.85; Oak Knoll, Oak Knoll Park, $2.85; Florencia, fy, J M Riley, $3.45; Rose, xf, Redl., O G Assn, $3.50; Tiger Head, xc, I L Lyons, $3.15; Rialto Girls, fy, F P Corson, $3.35; Old Mission, ch, C C Chapman, $4.10; Azusa Girl, fy, A P Nelson, $3.95.

Navels commanded $1.50 and up; Sweets, $1.25 to $2.60; Mikes, $1.25 to $3.70; Lemons, $3.85 to $4.75.

Tuesday's market showed a slight weakening under a continued receipt of poor fruit, also a slightly decreasing demand. Navels were practically unfit for use. Valencias were fine. Total sales aggregated ten cars. Lemons were exceedingly high, nothing of fancy grade being obtainable for less than $5 per box.

Some quotations were: Valencias: Tunnel, ch, S-T Ex, $2.85; Red Shield, xc, A C G Ex, $3.55; Golden Eagle, st, C C Chapman, $3.35; Eagle Head, xf, I. L. Lyons, $3.55; Rose, xf, Redlands, O G A, $3.85.

Mikes, $2.60 to $3.60; Seedlings, $1.75 to $2; Bloods, $1.65 to $1.90; Sweets, $1.90 to $2.50.

BOSTON.

Monday's auction took five cars. Valencias commanded ready sale at good prices.

Some quotations were: Valencias: Vista Bonita, fy, W F Whittier, $4.40; Crocus, xf, West Hgh., $4.25; Quail, xc O-C Ex, $3.85; Perfection, fy, CCU, Redlands, $3.65.

Sweets, $2.15 to $2.60; Mikes, $2.85.

Tuesday's auctiin took only six cars. Valencias ranged from $4 to $5; Mikes $2 to $2.50; Sweets, $1.35 to $2.95; Lemons, $3.30 to $4.20.

PHILADELPHIA.

Seven cars sold at Monday's auction. Lemons were fairly sound, selling from $3.30 to above $5.

Some quotations were: Valencias: Mocker, or, Spence Ft Co, $4.05; Blue Globe, xf, Riv Ex., $2.50; California Orange, st. Riv Ex, $2.75.

PITTSBURG.

Seven cars sodl at Monday's auction, Valencias commanding $3.15, $3.60 and $4. Mikes sold at from $2.50 to $3.60 and lemons at $3.75 to $4.50.

NEW YORK.

Fourteen cars sold at auction Wednesday. Weather intensely hot. Business almost at standstill. Sound fruit found ready sale at only fair prices.

Lemons booming as high as $6.50 secured for some boxes. Some jobbers are asking $7.50.

Some quotations are: Valencias: Rose, xf, R O G Assn, $4.15; Blue Mtn., fy, Riv Ex., $3.90; Rialto Girl, fy, Corson, $3.65; Eagle Head, xf, Lyons, $3.40.

Sweets, $1.85 to $3; Mikes, $1.10 to $2.40; Seeds $1 to $1.75.

Lemons, $4 to $6.

BOSTON.

On Wednesday seven cars offered; three withdrawn.

Valencias, $3.70 to $5; Lemons, $3.50 to $5.50.

PHILADELPHIA.

Eight cars Wednesday.

Valencias, $1.30 to $5; Lemons, $4.50 to $5.50.

CITRUS SHIPMENTS.

Total citrus shipments since Nov. 1, 27,439, of which 3137 were Lemons.

The best dairy cow is the one that produces the greatest amount of butter fat at the least cost. No cow can do this unless she has been bred for it or unless she be a freak, and that sort of a freak is not very common.

Extensive field fires in Evergreen valley and the timbered hills back of Las Animas valley, near San Jose, last week caused immense damage by burning over thousands of acres of hay, grain and pasture lands.

The weather and crop conditions for the week ending July 10 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—The weather was clear during the week, with light fogs in the coast districts towards the close. High temperatures prevailed throughout the State nearly all the week, and in many places previous records were broken on the 7th and 8th. Maximum temperatures were reported as follows: San Francisco, 98 degrees; Sacramento, 110; Red Bluff, 114; San Luis Obispo, 104; Fresno. 115; Cloverdale, 115; Santa Rosa, 109; Palermo, 116; Porterville, 114; Riverside, 103; Los Angeles and San Diego, 86.

Harvesting and threshing are progressing rapidly and hay baling continues. The grain crop is somewhat disappointing and is much below early expectations except in a few places. In Southern California the yield of wheat and barley is the best for several years. The hay crop is above average in nearly all sections. Sugar beet harvest continues; the yield is reported above average. Beans were not seriously injured by the heat and give promise of a large yield. Hops, corn nad potatoes were benefited by the warm weather and are making rapid growth. In some sections the yield of hops will be fully average.

Deciduous fruits and grapes were probably injured to some extent by the extreme heat but reports thus far do not give any reliable estimates. Fruit picking, canning and drying are in progress and large shipments were made during the week. Grapes are in market in limited quantities. Lemon shipments from San Diego were unusually heavy. Oranges are in good condition.

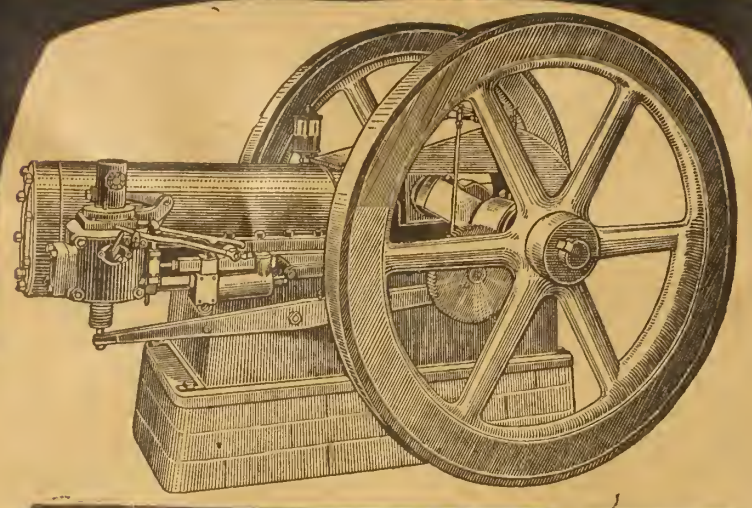
Eureka Summary.—Continued warm and dry in the interior. Oat hay cut and in shock; crop heavy, but considerable rust. Pears, peaches and small fruits are light and potatoes poor.

Los Angeles Summary.—The warm weather benefited citrus fruits. Lemon shipments are brisk. Irrigation water is plentiful. Gardens and orchards are in good condition. Hay harvest is about over and baling is in progress. Apricots are a fair crop; drying has commenced.

There are no reports of damage by the heat and it was probably beneficial to deciduous fruits, grapes and walnuts. The grain crop is being rapidly harvested and threshed, and it is the best for many years; shipments will commence soon. Sugar beet harvesting is progressing. Beans were not seriously damaged by the heat and prospects are good for a large crop.

IN WOMAN'S BREAST
ANY LUMP IS CANCER
Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.
THREE PHYSICIANS OFFER $1000
If They Fail to Cure Any Cancer
Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.

Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.
Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.
Please Send to Some One with Cancer



THE "WESTERN"
GAS GASOLINE & DISTILLATE
ENGINE.

Irrigation Plants

The Western Distillate Engine, sizes 5 to 100 H. P., is now pumping water

CHEAPER

Than any other engine built. We design the plant complete, install it and deliver to you.

Doing What We Guarantee

It will outlast any two of the old-style engines now in the market Call and see them built and tested.

Western Gas Engine Co.
908-932 N. Main St. Los Angeles, Cal.
SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE
WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BOREO WOOD WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

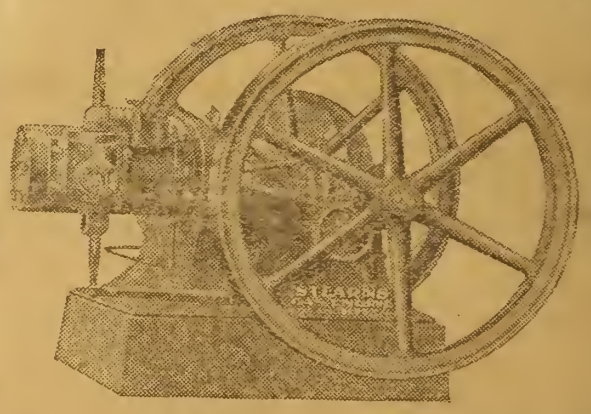
MANUFACTURED BY
PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.
THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

Simplicity HOME MANUFACTURE Economy



A first-class home manufactured Gas Engine which is proving a winner. The mechanism on intake valves allows spring to lengthen and valve to work easier and take a larger charge when needed.

A new idea—another step in advance—is the sparker which operates only when necessary to explode the gas and gives same length of time in contact whether early or late spark.

WRITE FOR CATALOGUE AND INFORMATION
STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

SHASTA ROUTE

is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

$35.00 ROUND TRIP

Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

OF THE
UNIVERSITY of ILLINOIS

California
CULTIVATOR

LOS ANGELES SAN FRANCISCO

JULY 21, 1905

A Good Silo Filler, as Grown in the San Joaquin Valley.

CIRCULATION EXCEEDING 10,400

... COULSON'S SPECIAL MOULTING FEED ...

A FEATHER GROWING FEED

A specally prepared or properly balanced mixed feed containing the right component parts of materials for producing the rapid growth of feathers.

The term "molting" denotes the process of the birds shedding their old feathers and growing new plumage.

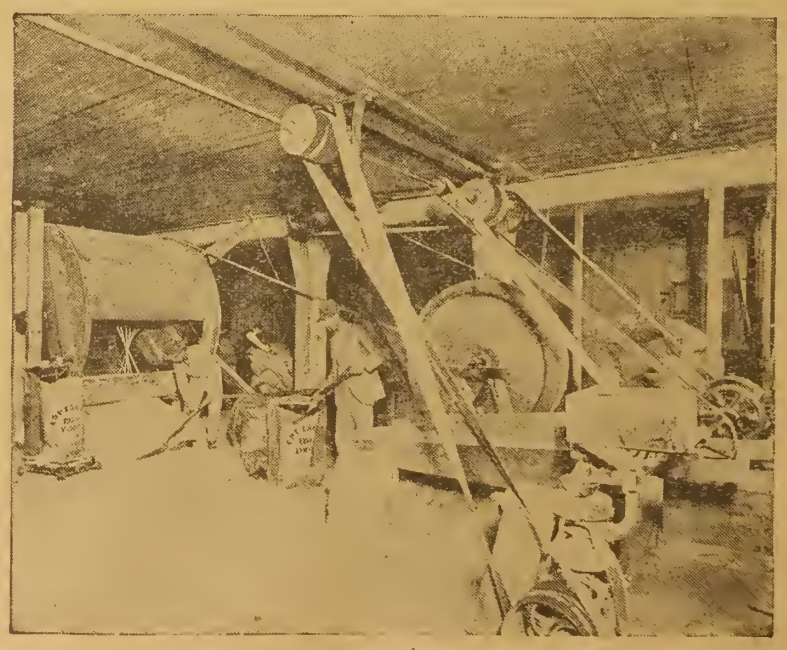
It is not necessary to starve the hens to make them molt, neither is it necessary to stop egg production. Hens fed with good feed and with good digestive capacity, can lay eggs and make feathers at the same time.

Keep hens for profit—intelligent feeding returns a profit. Feed a good balanced ration (Coulson's Egg Food) the year round so as to keep the fowls in good normal and healthy condition; then when the molting season comes and you want your fowls to molt, and get through molting before winter sets in, just start feeding them COULSON'S SPECIAL MOLTING FEED, and the fowls wil soon be getting a beautiful glossy plumage (due to articles in the feed) and will get their new feathers in short order; for in this Special Molting Feed they get the material needed for feather production.

Knowledge is power, and the knowledge needed now by poultrymen is to know just what foods contain the most of certain kinds of nutriments, and will produce the rapid growth of feathers and also keep the bodily health of the fowls. This is why it pays to feed Coulson's Special Molting Feed during the molting season.

Young healthy fowls fed on the right kind of feed will complete their molt in sixty days; older fowls will take longer. Birds not properly fed during the year will be weak during the molting season; they lack vitality, and will molt very slow. probably taking six or more months to get their new growth of plumage, and quite a number of the weaker birds die from the strain of molting or from exposure.

Loading Cars with Coulson's Food for Laying Hens



Interior Scene of Coulson Co. Manufactory

Young birds will molt and grow new plumage at the expense of health; old fowls will keep up their bodily needs, and go bare unless they are furnished the proper food to make the feathers grow.

The molt is a strain on the vitality of any fowl, for besides keeping up the heat and wear and tear of the body, the fowl must produce and grow new feathers; consequently the fowls should be fed a good rich food containing the right compoment parts of ingredients that will make feathers, and unless fowls are kept in good healthy condition, and fed the right food, many fowls will die during the molting season.

When fowls have been fed the year around one meal a day of Coulson's Egg Food so that they are in fine health at the beginning of the molt, if they are fed then for two months on Coulson's Special Molting Food, the growth of new plumage will be rapid, the new feathers appearing gradually, as the old feathers drop off; and the bird may never appear worse than a little rough coated, and the egg production will average about one in three days. Some birds even doing better according to their digestive capacity.

Any one keeping fowls will surely be pleased to get eggs in fall and winter when eggs are bringing the highest prices. For this reason one should assist the fowls during the molting season by feeding them Coulson's Special Molting Feed, so that the fowls will get through the molt before the winter weather sets in. The fancier also desires his fowls to complete their molt early so they will be in exhibiting condition for the poultry shows.

Fowls fed on Coulson's Special Molting Feed will have a beautiful bright glossy plumage (a condition of perfect health), and will be pleasing to the eye, so that the owners will be proud of their birds. This feed supplies the fowls with the minerals and protein substance, etc., needed for the growth, so that fowls can complete their molt and begin laying before winter.

MAKES HENS MOULT IN HALF THE TIME

MANUFACTURED BY

The Coulson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 3 LOS ANGELES, CAL., FRIDAY, JULY 21, 1905 Subscription $1 a Year

Advantages of Ensilage as a Dairy Feed

It is the Cheapest and Best Fodder Used in the Industty Today

The increasing use of the silo, even in California, where it is claimed by proper following of green crops and use of damp land pasture the year around, we may have succulent food for milk cows at all seasons, is notable. This is not without reason, for low cost of such food and its value as a milk producer has been proved so conclusively that its increasing use will probably be continued until some better form of food is devised. The claim formerly made that it tainted the flavor of milk has been disproved for today almost every dairyman who has used it will assert that there is no possibility of taint of any ensilage being taken to the milk from the cow's body though it often is the cause of tainted milk where its odors have been allowed to come in contact with the fresh drawn milk. Of course, it goes without saying, that there have been many failures and many have condemned the method of stock feeding but the longer experience with it and discovery of past mistakes is fast wiping out the prejudices. Silos so built as to admit air, either by faulty construction or by being so slightly built that they give way under the great pressure after filling is the cause of many failures. For instance, the old fashioned, square-built silo is more liable to spring out under the pressure, thus admitting the air and the moment air is admitted to the sides of the packed feed it begins to decay. Cases are cited where fifty to one hundred tons of ensilage have been destroyed by this mistake. Silos now are almost invariably built round and either of staves or of studding and so built as to be strong enough to hold the great pressure brought upon it by the packed feed. This pressure, in fact, is much greater than usually supposed. For example, a silo filled with cut corn to a depth of ten feet has an outward pressure of one hundred and ten pounds per square foot; of three hundred and thirty pounds at thirty feet and the enormous pressure of four hundred and forty pounds per square foot at a depth of forty feet. Or, in other words, every foot in depth gives an added outward pressure of eleven pounds.

But regarding the construction and some valuable points as to silos, we give below quotation from an address given last year by Mrs. Minna E. Sherman, of Minnewawa Ranch, Fresno, before several of the Farmers' Institutes. The address was given on the programs as "The Silo and Soiling Crops." We take this week, however, only the first half of the address, that which pertains more particularly to the silo, its advantages and construction. Next week we will refer more to the crops used for ensilage and to manner of putting up.

* * *

"The finest dairy cow has no powers by which she can produce more milk than is furnished by the digestible elements of her rations; therefore, while she must have plenty to eat, we think it can be furnished in its best form and at less cost, by making ensilage from the crops grown on the farm.

While the importance of decreasing the cost of feeding may not seem to the individual dairyman very great—providing his cows are already paying expenses, yet, when we consider the dairy industry represents the investment of more money and of more energy than all the fruit grown in the United States, to lessen the cost of feeding of the cows becomes one of the leading questions of the dairy world.

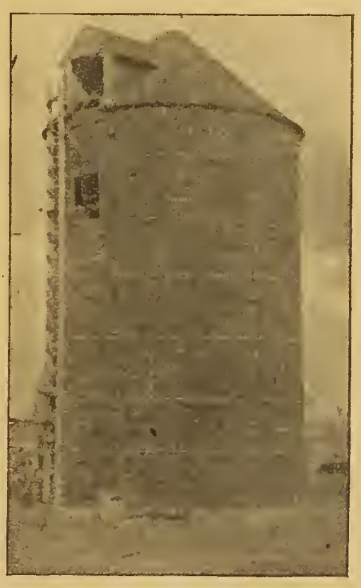
The name of the inventor or the discoverer of the art of making ensilage has long been lost. Perhaps, like the wheelbarrow, ensilage came into existence in the past because the world's economy had a great necessity to be filled.

Every year the value of ensilage as a food increases in our opinion. The waste of the green feed in filling a silo, and again in feeding it out, is much less than the loss from handling brittle hay. We have often wished for a simple way to estimate how far the loss in handling alfalfa hay would go toward paying for the extra hauling of it when put into the silo green. The silo is cheaper than a hay mow, for when it is considered that a silo of three hundred and fifty tons capacity for ensilage, will hold only thirty-one to thirty-two tons of hay, we can see the saving in building space; or if a good barn has been already built, the silos may be placed inside and the expense of a second roof saved.

The two silos on Minnewawa ranch were built before the cheaper form of stave silo had been used long enough to demonstrate their merits. For they are good and they are cheap—so cheap that no one should hesitate to put one up for even a few cows, any more than they should hesitate to buy a small separator. To our minds, both are a necessity in even the ten cow dairy.

The two silos seem to be practically indestructible—excepting by fire—so we are not likely to build another silo; yet if occasion demanded a third one, it would be built in the cheaper stave form.

The two silos are of wood, built entirely above ground; a low brick and cement foundation wall raises the wooden sides 18 inches above the ground. The interior ground surface is filled with six or eight inches of coarse creek sand placed directly upon the natural surface of the ground. By raising the interior surface, good drainage is secured. If it were not raised, the weight of the ensilage would depress it below the outside surface, and the rain water as well as the extra water from the silage would be held and rot both the ensilage and the building.



A Round Silo.

This plan is practicable for the reason that we are free from rats. Where they abound, a cement floor with a good, sloping drain must be used to keep them out, or they will burrow into the ensilage, leaving long tracks of mouldy feed where they have admitted the air from the outside.

The first silo we built is square, or rather, has two square pits in one building. It is 32x16 feet, and 24 feet high from the sills to the roof-plate. It is divided into two pits, each 16 feet by 16 feet. The framework is formed by standing studdings of common mountain pine on end every fourteen inches. On the inside the corners are braced and the angle reduced by placing three-foot pieces across them, while the outside form is left square. Inside the rough sheeting boards are placed horizontally close together over the sides; then heavy tarred paper is put on and carefully lapped to exclude all air; over this is placed the surfaced and matched four-inch lining boards. Outside the sheathing is covered with rustic and painted—for there is pride taken in the appearance of the farm buildings around Fresno. It also seems to me no one can afford to have unpainted buildings for the dirt to lodge on, for if the owner permits dirt on the outside it is hard to convince the men inside the building that "Cleanliness is next to Godliness."

One of the corners of each pit is fitted up as a chute with doors opening inward, one after the other, all the way down the side. These doors are closed as the silo is filled, and tarred paper placed over them, then sacks nailed closely on, and a second rough door holds them pressed in firmly. These doors must be as close as the body of the silo itself, or the air will enter.

On the roof of the silo is a dormer window, into which the end of the elevator carries the feed, cut into two inch lengths by the cutter. The cutter stands on a platform raised four feet from the ground and is power-driven. The wagons unload either onto the platform or directly on the traveling table of the cutter.

The large silo is 30 feet highand 26 feet in diameter. It is circular and stands on a brick foundation. It is built the same as the other, except there are no corners to cut off and consequently no inside feed chute. So in removing the silage, we send it down outside, using a long canvas sewed into a cylinder, or sack, with an iron hoop in each end to keep it spread, one resting on the wagon bed, the other at the door nearest the level of the silage. This makes the loading of the wagon easy and no ensilage is wasted. In the East, some of the dairymen are of the opinion that it does not pay to tar the inside of the silo, but let the acids from the ensilage eat the lining boards and destroy them in four or five years. Now we think it pays to tar every year. After seeing this opinion in print, we watched to see just how much labor it was to tar the inside. The two 16-foot square pits of the small silo took 4½ gallons of tar and 10 gallons of gasoline. Texas Sam and Missouri Joe were three and one-half hours putting it on. The lining boards in the silo are as good as when first

(Continued on Page 66)

STAND TOGETHER.

The loss to produecrs by scheming and by manipulation of markets by middlemen is most exasperating to the grower and is more general in California, we believe, than with the Eastern producer, because of greater dependence from the great distance from market. The only known remedy and one which has proved out is for the growers to stand together—to co-operate. On this point an address sent to the growers of raisins by the California Raisin Growers' Co. has this point:

"Can the grower who has toiled and sweated during the past eight months, plowing, pruning, cultivating, irrigating and taking chances against frosts, worms, spiders and mildew, view with complacency the spectacle of the middle man selling his produce four months before it is ready for market without even the scant courtesy of consulting the producer in order to learn whether or not he has some slight opinion as to what price the product should be offered to the trade. One year of intelligent combined action on the part of the growers will teach the short-seller a lesson, of which he is badly in need. Last year the packers performed the same trick (successfully too) to the great loss of the growers.

About one thousand cars of seeded raisins were sold early last season before any quantity, practically speaking, was contracted for from the producer. This was another flagrant case of shorting the market to the detriment of the interests of the grower. Why? Because the short selling last season by the packers was the direct cause of those packers agreeing among themselves to pay the grower no more than $35 per ton in the sweat-box. The grower was caught unorganized for the first time in seven years, and forced to submit and deliver his raisins at a starvation price. The interests of the producers are of no concern to the middle man. As a rule, he has no more sentiment in his general makeup than a hard-boiled egg, and considers it only business to depress the market as low as possible at the time growers are compelled to sell, and if to accomplish this result it be necessary for the packers to combine there is no difficulty in effecting such combination. This fact is illustrated by the local situation today concerning dried apricots. Under ordinary competitive conditions, the buyers of dried apricots would have been swarming in the fields weeks ago to secure this line of fruit. The quality of dried fruit on the coast carried over from last season, other than a few prunes, practically amounts to nothing; and the present conditions of supply and demand are all in favor of the producer. At the same time, the actual apathy shown by the dried fruit handlers in the San Joaquin valley in the matter of buying dried apricots indicates nothing more nor less than that another "dried fruit combine" has been formed up in the salty air of San Francisco for the purpose of again inaugurating the "relieving process" now to be applied to the apricot grower.

The thirty-five dollar per ton in the sweat-box of last season for raisins worked so beautifully that it is a valuable object lesson to the packer; and from his point of view, why not apply the system to dried apricots and later on to dried peaches?

So brazen has the situation become that as early as a week ago a large number of apricot growers in Kings county met and as a matter of self-defense agreed to pool their apricots and demand a price justified by present eastern market conditions. The fact that apricot growers find themselves compelled to adopt such action is significant and proves that anything the grower produces is meat for the packer, and by the packer for his own benefit should be "systematized."

Then why under the sun can't the grower "systematize" just a bit for himself?

The only answer we hear is a discouraged "Why?"

UNITED PACKERS AND GROWERS.

The California Raisin Growers Co. has issued a call for a meeting of the stockholders in that company at Fresno today, at ten o'clock. The meeting has been called by the board of directors for the purpose of submitting to the growers a proposition to unite with the packers in forming a packing corporation upon a permanent basis.

The directors of the company have held an extended conference with the packers with the result that this conference of all the growers is called. Should a combination be effected, it is to be hoped that it will lead to the greatest good to the greatest number of growers.

The details of the plan of amalgamation have not yet been worked out, but there is no question that both sides, that is, the directors and the packers, are favorable to the general idea of combination, provided the details can be worked out equitably and satisfactorily.

Regarding the advisability of this move, the Tulare Register says: The chief advantage claimed for the plan is peace. It will unite what have been antagonistic elements of the business and make their interests common. Packing will be done at cost and dividends will be equally divided among grower and packer. It will save duplication of packing plants and constant warfare. It will put the growers into possession at once of the avenues of trade. In fact, its advocates can cite every business reason for it; how it will appeal to the growers remains for the mass meeting to determine.

Bone dust and wood ashes are the best fertilizers for strawberries and supply all that may be lacking in almost any soil for their growth.

Keep the ground which the crops occupy free from weeds and soft and mellow.

BENEFICIAL PARASITES IN SONOMA COUNTY.

In the report made by the Sonoma County Horticultural Commission, of which Mr. Bremner is secretary, we note that the brown apricot scale has found its finish, or at least is being controlled by the little parasitic chalcid fly, Comys fusca. This apricot scale has proved a serious menace not only to apricot trees, but to many forest trees in the northern part of the State so that this beneficial fly which has been doing the work for the last few years, now gaining control of the situation, is a great boon to all parts of the State.

As to the control of the San Jose scale, the report says: "We now have one internal (Aphelinus fucipennus) and three general feeding parasites, Chilicorus givulnurus, C. similis and Rhizobius lopantha) feeding on them so that now there is no part of the country within our knowledge where these beneficial insects are not keeping down this dreaded pest.

On the olives the black scale was very abundant but by importing the egg parasite (Scutellista cyanea) and our old friend (Rhizobius ventralis) our olive trees are rapidly assuming their natural bright color and the olives will undoubtedly be free from the black smut this coming season.

As to the canker worm, we have conclusively proven that the tanglefoot which we have used for the past two years, and with which we intend to cover the remaining territory this fall, is not only the most effective remedy used, but will absolutely clean up the affected orchards when carefully applied."

In the matter of grape vines, the report says that resistant vineyards have not only proven themselves thoroughly resistant but the quality and quantity of vines have improved in the resistant stock.

THE DISCONTINUANCE OF TULARE EXPERIMENT STATION.

By recommendation of Professor Wickson, University regents have ordered the discontinuance of the experiment station at Tulare. This will reduce the number of experiment stations in the State to two; the one located at the University at Berkeley and the other at Pomona. There are two forestry stations, one at Chico and one at Santa Monica. Also a poultry experiment station at Petaluma. In this respect, the regents of the University have suffered under the embarrassment of attempting to carry a heavy expense with a small appropriation. For that fund, they received from the United States Government $15,000 and Professor Wickson, in a letter to the Chamber of Commerce at Tulare, replying to its protest against the removal, states that the maintenance of these permanent sub-stations from the Hatch fund is disapproved at Washington and is likely to involve us in trouble even to a possible withdrawal of a portion of that fund.

Also that the extension of special field investigations and experiments into problems at the points where they rise to pressing importance, is a more direct and less expensive method of reaching valuable results.

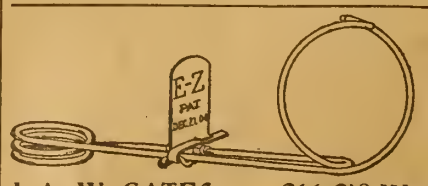
This action is to be regretted though we fully appreciate the embarrassment under which the State University labors in attempting to hold up so many stations and at the same time do thorough work. It it to be regretted because the Tulare station is in the midst of a magnificent agricultural country with cultural problems of its own which we believe the farmers there may be greatly aided in by a well conducted experiment station. The people of Tulare provided the station grounds and the funds for constructing the buildings and they urge this as one of the reasons for the continuance of the station work. A committee consisting of John Tuohy, P. J. S. Montgomery and L. H. Haney are pressing the matter of continuance of the station and hope they may accomplish that result.

IF YOU SEE THE

NEW POMONA PUMP

Work, you will have no other under any consideration.
The long, easy stroke without any jerk or jar, makes them popular at once.
Built on strictly mechanical lines, having a direct center pull on the rods.
Where one goes others follow and we are rapidly taking the country.
Every customer is a pleased customer and our best advertising medium.
Write for our new catalogue.

Pomona Manufacturing Co., Manufacturers
POMONA, CAL.
When writing advertisers mention Cultivator.



45 cents for 3

I will mail three E-Z GOPHER TRAPS as samples for 45 cents. Write now.

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

Cylinders
In Fifty sizes and lengths
For Every service
A. T. AMES
Galt, Cal.

SUCCESSFUL BEEKEEPING..

Many have an idea that successful handling of bees requires but little study or scientific knowledge of the calling. But we notice in an Eastern exchange on this point a few words which may be of interest to those contemplating engaging in the industry:

I have worked with bees nearly fifty years and have seen large and small apiaries started all around me. The most of them disappeared very soon. In every case of such failure I found that the man either did not read or was not able to understand the little he did read.

Now we have to consider another point. This self-education by reading and studying is the most difficult way to obtain a certain knowledge. Some degree of elementary knowledge is necessary for it, also some energy, I might say a love for science; a much easier way it is if we obtain this knowledge by and by, if we practically work in the apiary under the supervision of a well educated apiarist, who explains everything, every operation, not only practically, but in every case gives the scientific reason why something must be done in this and not in another way.

I will say again, to be a successful beekeeper the man must possess the necessary scientific knowledge, then and only then he will know every time what to do if something unexpected happens in the apiary and he will be able to improve his practical operations. The late Baron Berlepsch, one of the most prominent beekeepers of Germany in the last century, said: "At first learn theory, or you will remain a bungler in practical beekeeping all your life." Here the word theory has another meaning from that for which it is generally used in the United States. Here theory means only a hypothesis not entirely proven, in Germany the word is used for science.

BEE-ESCAPE SWARMING.

For three seasons I have used the following plan with success. When I find larvae in queen-cells so that I know the colony is preparing to swarm, I put a body filled with frames of foundation on the bottom board, next to a queen-excluding board, then the surplus cases, next a porter bee escape board; on this the body containing the frames of brood, and lastly the hive cover. Leave the hive in this condition on the old stand till the field bees have had time to pass through the bee escape, say twenty-four hours. So far the manipulation is the same for all purposes. The next thing to do is to introduce a queen into the colony below the queen excluder. This may be the old queen taken from the brood-nest above, or another. If another, the old queen may be left where she is till I decide what to do with her. If I wish for increase, at the proper time, whenever I think a sufficient number of the newly hatched bees have gone below, or I conclude I have left in the old brooder enough brood and bees for the nucleus of a new colony, I remove the old brood nest to a new stand. If I do not wish for increase I may kill the old queen and let the young bees go below through the bee escape till all are hatched, or let the old queen continue laying for a while before she is removed. If I put the old queen below and wish for increase, I introduce a new queen above and make a new colony at the proper time as before. If I make the bees above queenless, I usually keep queen cells cut out—a small job, for the larvae soon becomes too old, although I have got along all right by laying a piece of perforated zinc over the hole of the bee-escape.—Bee Gleanings.

FOOD VALUE OF HONEY.

Few people know the true value of honey as food. A great many children are daily overtaxing their delicate digestive organs and laying the foundation of an invalid life by the excessive use of sugar, candy and other delicate sweetmeats. If their parents would only give them honey instead, they would not only find it a good wholesome food, but very restful to their digestive organs, as honey is the only sweet that is practically predigested.

The honey today is just the same as it was in the olden times. It is one of nature's sweets. But let us look into the matter from a scientific point of view. The physician often recommends honey for sore throat, coughs and other troubles, and because honey is not only predigested to a great extent, but it is a very good antiseptic. The best remedy known to medical science for fumigating to kill disease germs is formaldehyde gas, because it unites with the oxygen of the air to produce formic acid, and is therefore effectual. Years ago this was not known, and the only means known then to obtain formic acid was from bees or ants, and, strange as it may seem, formic acid, the great germicide, always occurs in honey, and is one of the natural products of the honey bee; and although honey does not contain this formic acid in large enough quantities to make it a germicide, it is nevertheless, antiseptic to a considerable extent, and is therefore very valuable in preventing disease. Dr. Gandy, of Nebraska, says that honey is a sure preventive of that dread disease of the kidneys, Bright's disease.

I have found honey very valuable in curing tonsilitis by holding honey in the throat so as to keep the tonsil in contact with the honey.

Both drones and queens are harmless and never sting the person handling them.

Some one several years ago discovered that 2160 bees could be placed in a pint measure and that it takes 336 bees to weight an ounce, 5376 to the pound.

It is necessary to give prompt attention to all the duties in bee keeping. It will be a mistake to neglect even the smallest details.

FARMERS' INSTITUTES.

Wishing to know regarding the coming institutes, both in the north and south of the State, we have written Superintendent E. J. Wickson regarding the matter and learn that there are no dates announced for either end of the State at the present time.

Regarding the conducting of the institutes in Southern California during the absence of Professor Cook, Professor Wickson writes that it is the intention to carry on the southern institutes very much according to the plans in the past, with possibly somewhat different arrangements of dates.

The Italian bee is a better worker and more easily controlled than is the black variety.

Spring is conceded as the best time of the year to start in the bee business.

NATIONAL IRRIGATION ASSOCIATION.

The thirteenth annual convention of the National Irrigation Association will be held at Portland, Oregon, Aug. 21st, 22d, 23d and 24th. It is probable the attendance will be the largest in the history of the Association.

Immigrants are arriving at the rate of a million a year, but too few of them are farmers, judging from the wails from farms about scarcity and wages of farm help.

There is one postal department graft too sacred to be interviewed—its contracts with railroads.

RANCH FOR SALE

13 acres 12 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R. D. 1 RIVERA, CAL.

When writing advertisers mention Cultivator.

SHASTA ROUTE is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

$35.00 ROUND TRIP

Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

When writing advertisers mention Cultivator.

To Destroy Wild Mustard

The Cultivator has frequently referred to the use of spray with copper sulphate for destroying wild mustard, but having request for more explicit information, we take the following from the Farmer's Tribune, as giving a more extended notice of it and more directions as to handling the spray:

In 1897 a Frenchman by the name of Bonnet discovered that a great many weeds can be killed by spraying them with certain solutions of chemicals, such as copper sulphate, iron sulphate and nitrate of soda. Shortly after the announcement of this discovery, a great deal of experimenting followed, especially in Europena countries, and the statements made by Mr. Bonnet were verified.

Since then a number of our stations have experimented with spraying different weeds with copper sulphate and found that this chemical is especially adapted for killing wild mustard. A two and a half to a three per cent solution, that is about eight or ten pounds of copper sulphate per barrel of 40 gallons of water, has been found to give the best results. This strength of solution does not injure such crops as corn, wheat, barley and oats, but it does kill mustard. The solution should be applied with a spraying outfit. A one-horse six-row potato sprayer with a tank capacity of about 100 gallons is well adapted for this work. These sprayers throw a spray about 18 feet wide and with such a sprayer a man is able to cover about 20 acres of ground per day. Consequently, the work of applying the spray will not be expensive. Copper sulphate may be purchased at drug stores at from eight to ten cents per pound in large quantities, but if a great deal of this chemical is needed, it should be purchased from wholesale dealers where it can probably be had for from five to seven cents per pound. If a three per cent solution is used it will require about 40 gallons of the solution to spray an acre. Hence, the cost of the sulphate should not exceed 75 cents per acre. The spray should be applied on a clear, bright day rather than on cloudy and damp days. It is scarcely necessary to say that the solution should be applied a couple of days before rain, otherwise it will be washed off before the mustard is killed. The earlier in the season the spray is applied, the better. That is, mustard is more easily killed before it comes into bloom than when it is in bloom.

This copper sulphate solution will not only kill wild mustard, but it will also, according to experiments at the New York station, kill wild radish, wild barley, young penny grass, shepherds-purse, wild buckwheat, lamb's quarters, ragweed, dock and dodder. As has been said before, it does not injure corn, wheat, barley, oats, peas and sugar beets, consequently when the weeds mentioned above occur among these plants in large quantities, application of copper sulphate becomes a very cheap method of eradicating these weeds. Beans, potatoes, turnips and rape, however, are injured by a three per cent solution of copper sulphate, and it would be impractical to kill mustard among these plants with this solution.

There seems to be some ground for believing that copper sulphate dissolved as recommended above may also be a very effective remedy for dodder. Since a good deal of dodder is making its appearance in the alfalfa fields, we suggest to our readers who may be troubled with this weed to spray a small patch of alfalfa as an experiment and note results. There is no other way of killing dodder that we know of except to cut the crop as close to the ground as possible, dry it and then burn both the alfalfa and the dodder. The dodder goes to seed before the alfalfa does. If this copper sulphate should prove to be effective, it would certainly prove to be a boon to the alfalfa industry. Should any of our readers try this method, we hope they will report results to us."

THE NEW NAME OF THE BUREAU OF FORESTRY.

From July 1st the Bureau of Forestry is to be officially known as the Forest Service. The change was made by Congress last winter, when it provided for the Government work in forestry during the coming year, and signalized an important advance in the scope of that work. The actual control and administration of the national forest reserves, formerly under the charge of the Land Office of the Department of the Interior, is now in the hands of the Forest Service, the only branch of the public service possessed of the scientific and technical knowledge necessary for the enlightened care and use of the forests. This means that the reserves are to be made to yield to the people of the country the largest benefits which intelligent management can get out of them. Use, not reservation from use, is the essential purpose for which they exist—but use under such conditions as shall make their benefits permanent.

The field of the Bureau of Forestry has expanded remarkably in the past few years. The first Government recognition of forestry was in 1876, when Congress made an appropriation for a skilled man to prosecute a study of forest conditions, needs, and uses, and make a report to Congress. This office was continued until the Division of Forestry was created, July 1, 1886, Then from a mere office of information the Division stepped suddenly into the field of actual operations, demonstrating by example how forestry could be made to pay, and thus furnishing the one argument needed to convert private owners from scepticism as to the practicableness of a theory to the acceptance of a proved fact. When this was accomplished a new epoch in the history of American forestry opened. Since that time no single step forward has been so important as that which the use of the new name. Forest Service, now marks. This the people of the country, and particularly the people of the West, where the reserves are, will come to realize as they grasp the fact that, scientificially and efficiently administered, the reserves will soon reach their highest efficiency as contributors to the wealth and permanent development of the regions in which they lie.

It is necessary for the farmer to thoroughly understand all the routine duties of the farm.

Cultivation in a dry time is most injurious to weeds and beneficial to crops.

RECIPROCITY CONVENTION.

A call has been issued for a National Reciprocity Convention, to be held in Chicago August 15th to 17th. The immediate cause of the call of this convention is the action of Germany in discriminating against the products of the United States in its new tariff schedule which is to come into effect next year.

As an example of the discrimination against this country, the circular calling the meeting refers to the fact that the schedule relating to dried apples, pears, peaches and apricots, on all of which there is at present a duty of 4 marks (95 cents) per 100 kilograms (220.4 pounds), and in all of which a very large and important import trade from the United States has been built up, under the new autonomous schedule will be dutiable at 10 marks ($2.38) per 100 kilograms, while imports from Italy, Roumania, Austria-Hungary, and Servia (the European countries which notably produce a surplus of these dried fruits), will come in under a uniform duty of 95 cents, an advantage of $1.43 in favor of the treaty favored product. Will the superior dried fruits of our Pacific States, with their long journey to Bremen and Hamburg, be able to stand this new competition?

Another example is that of fresh apples exported from this country to Germany last year at the rate of almost 15,000 tons free of duty, which under the new schedule will be compelled to pay $2.38 per two hundred and twenty pounds.

INEXPENSIVE POT FOR PLANTS.

Mr. A. L. Davis, a farmer near Santa Ana, recently gave a Cultivator representative a good idea for a device in which to plant young tomato, cabbage or other plants or even ornamental plants to grow until ready to put into the open ground or into regular and more substantial pots. He folds brown paper, or, a good quality of old newspaper of from six to a dozen thicknesses, and wide as may be desired for the height of the pot. The length of this folded strip to be the circumference of the pot. The ends are brought together with an inch or two inch lap and held together with two or three tacks driven through and into a strip of soft pine on the inside. This makes a cylinder of paper which is given the round shape by packing a layer of dirt in the bottom, after which the young plant is planted in this paper "pot" the same as in a tin can or in a regular flower pot. Of course, it is without bottom, so has to remain in its tray or on a bench. When ready for repotting or setting in the open ground, this paper which has held the soil in place is slipped off and the small plant is placed in its permanent receptacle. These pots have been found very convenient, simple and cheap for shipping plants, and have held together for shipping long distances. Mr. Davis has even used them more than one time and finds them still good for continued use.

The directors of the State Agricultural Society held a meeting last Saturday at Sacramento to prepare for the coming State fair. Benj. F. Rush of Suisun was elected president; Thos. Fox superintendent of the fair grounds and William Lamb was made superintendent of the new pavilion. Committees will be announced by the president at the next meeting, July 29th. General admission fee was placed at fifty cents. The president was authorized to secure a band of Indians and cowboys with Indian band from Nevada, and an exhibition something of the nature of a Wild West show will be given on Monday, September 4th. The stock parade will be held on Wednesday the 6th, and the premium parade will be given on the following day.

E. T. Allen was appointed State Forester last week by the Governor. This is a new State office which carries a salary of $2400. Mr. Allen will act as secretary of the Board of Forestry, and has the employment of two assistant foresters. He is to co-operate with counties, cities, towns and individuals in promoting enforcement of the laws for forest preservation and in planning to that end. The new officer is to compile and publish the laws of forestry and distribute abstracts of them to all fire wardens. Mr. Allen will divide the State into fire districts and any county or combination of four counties may be made a fire district.

We Can Save You More Money

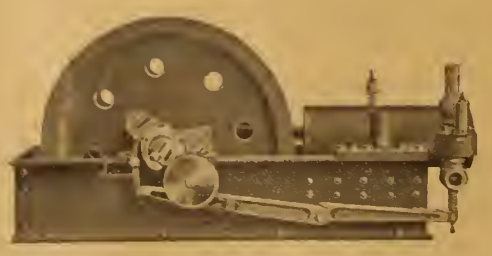
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building — Shops and Yards: 860 North Main St.
Phones; Home 2367; Sunset Red 2811 — Phones; Home 1088; Sunset Main 1088

When writing advertisers mention Cultivator.

Is It a Success? Will It Stand the Test?



BETTER,

Has It Stood the Test?

IT HAS,

AND IS TODAY A

SUCCESS

Built in California to Stand Hard Work: Simplest, Best, Cheapest.
Write for further information.

M. C. TUNISON, Designer and Builder 717-721 N. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

SCUTELLISTA CYANEA.

During the spring and early summer there was very much that was discouraging in the work of the scutellista on the black scale, but with the advance of the season, conditions are improving. In the early spring except in a few orchards, but few of the parasites were found at work and in some instances, none at all. In many orchards and in the pepper trees the black scale have hatched early and ahead of the scutellista and the trees are pretty well stocked with young scale, that unless thoroughly treated will go over until next year.

The parasites are now found working everywhere, although in some cases in limited numbers. The scutellista will increase rapidly from now on until the end of the season, and by the last of August and the first of September, undoubtedly all of the old scale remaining will be parasitized. The destruction of the late scale will make it possible by thorough treatment to destroy all the young scale now hatched or that will hatch later. Under such conditions, where the red spider does not put in an appearance, which will necessitate spraying, fumigation, in connection with the scutellista, may make a thorough clean up.

The question is frequently asked, what becomes of the scutellista during the winter, and why did they not show up in greater numbers this spring? I believe this to be due to the wet winter, with an almost complete absence of scale during the winter that were in condition for the scutellista to work on, with the probability that the long period of hibernation resulted in the death of most of the old flies—bred last fall. The reason for this belief is based on the fact that in the case of citrus nurseries where there was a limited amount of scale in condition, we had a stock of scutellista in early spring and in a few orchards where like conditions of scale existed, we had the same results. In those orchards where the fly was well established and working last year, we find even now but a limited number of the parasites, and of course a reduced number of scale remaining. In other orchards where the scale was perhaps hatching through the winter and in which the parasite was first put last year, there is now from one-third to two-thirds of the scale, now in condition, that is parasitized. We know that the scutellista worked last fall and during early winter, destroying a great many of the scale then in condition. With the coming of the winter rains the scale remained stationary and did not develop into the egg stage until spring, in fact, in most of the orchards coming under my observation, there was an absence of young scale and at the present time these orchards show no half grown scale.

On Marengo avenue, of Pasadena, with its old pepper trees, was placed the first colonies of scutellista located in this section, that was three years ago the coming September. At the present time there is a good stock of old scale on these trees and but a comparatively few scutellista. Last year the mites, the secondary parasite, which attacks the scutellista, destroyed the scutellista in large numbers, allowing the scale to restock the pepper trees. So far this season only an occasional mite is found attacking the scutellista. Last year the mite was at its worst in the last of August and during September. At the latter date, in that locality, the mite destroyed nearly every larva and pupa of the scutellista under the shell of the scale. One point is true in orchard work of last year, and on most of the pepper trees, the stock of scutellista, where well established, has reduced the number of the scale, and in several instances, the pepper trees are clean. We cannot give the whole credit to the scutellista for the destruction of the scale. I know there was a stock of young scale hatched out last summer, but the fly certainly did good work in reducing scale.

That the scutellista is to remain with us, there is no doubt. How thoroughly it will keep the scale under control is still an open question. Mr. Mills, of Riverside county, expresses his fears that the comparatively regular hatch of the black scale in that section, coming in the fall, with but little or no fully developed scale in the egg stage in the winter and early spring, will result in the stock of flies not successfully carrying over from one season to another, making a too long hibernating period with but little or no flies breeding during the winter season that can contribute to the maintaining of the stock of flies. It would seem from our own experience in Los Angeles county this winter, that there may possibly be something in this to prove that Mr. Mills' fears are not entirely groundless. I heard Mr. Alexander Craw remark, a short time before he left the State, that he believed it would be a good thing if we had a fairly effective parasite that would destroy the young black scale, working in co-operation with the scutellista.

CLEAN CULTURE OR NO CULTURE.

The practice of keeping the ground on which the orange grove stands perfectly free from herbage and thoroughly cultivated throughout the whole season, year in and year out, has been indulged in by many and is still followed by some. This practice has little to recommend it. A soil so treated soon becomes depleted of its natural fertility and the humus soon becomes used up through constant cultivation and the application of various fertilizers. No amount of fertilizer will do the work it should if the soil once loses its natural body and becomes deficient in humus. In spite of every effort in the line of fertilizing, such a soil will become poor and infertile and the trees will soon show the effects in their unhealthy condition, and the owner will realize it in his diminishing returns.

If clean culture is adopted, humus must be supplied in some way, and the plan used by a number of successful growers in the citrus districts is to cover the ground with a liberal coating of leaves and leaf mold from an adjoining woods. By this means, a mulch and the material from which humus may be formed are provided for the soil. It is far easier to maintain the humus content of soils than it is to replace it after it has been once worked out of them, a fact which it is well to bear in mind.

Humus, one of the most, if not the most important ingredient in any fertile soil, is generally found in inadequate amounts in citrus soils, and any system of cultivation which does not tend to increase the amount or maintain a considerable quantity of this substance in the soil is not based upon scientific principles.

Any piece of ground denuded of its natural covering of vegetation, and so exposed continually to the burning heat of a sub-tropical sun, rapidly loses most of its fertility and becomes dead, lifeless and useless. The soil must not be regarded only as a place for roots to grow and live in, it must be looked upon as nature's food producing laboratory in which multitudes of micro-organisms or bacteria, are busily engaged in preparing food for the plants which grow on it. They fail utterly in the performance of their work if their natural element, a soil rich in humus, is by some means converted into a sandbank. This is exactly the result of long-continued clean cultivation.

* * *

Humus and Its Value.—Humus is a product of the decay of organic substances. When these undergo decomposition in the soil, humus is the intermediate product formed; that is, just before the resolution of the organic material into its component chemical parts. It is probably not too much to say that humus is the most important substance found in any fertile soil and its presence may generally be taken as the index of fertility. The truth of this statement may be realized more fully when we remember the fact that all barren soils are lacking in this substance and the chief difference between a barren and a fertile soil is usually a difference in humus content, not in the mineral ingredients.

The changes which are constantly taking place in soil may be grouped as physical, chemical and biological. The first relates to movement of water, the size of the particles and the mechanical changes, such as those produced by the displacement of the soil particles by animals or the roots of plants. The second includes all changes wrought by the action of acids or other disintegrators of a chemical nature, while the third, in its use here, refers to the changes brought about by soil bacteria. All three of these changes, whether physical, chemical or biological, are intimately associated with the presence of humus.

In regard to the first, it may be premised that soils rich in humus are not solid and compact, but loose, open and better aerated than those lacking humus and that the water-holding capacity is materially increased by a fair admixture of humus. Now, if the ability of a soil to retain moisture is increased by the presence of humus, it follows that all plant food in solution will be held as well and this is an important feature.

Humus contains from three to twelve per cent of nitrogen and this in itself is a fact worth bearing in mind, but it has been ascertained besides that soils rich in humus are usually well supplied with phosphoric acid and potash.

Reference has already been made to the bacteria which play such an important part in the formation of plant food and which are so intimately associated with the work of providing nitrogen for the use of the trees. It may be said that but little nitrogen from those materials in which it is usually found in or supplied to the soil would be available for the trees were it not for their presence, and the bacterial content of the soil, other conditions having been met, is dependent entirely upon the presence of humus.

Hence, it will be seen that humus is a very valuable soil component and is intimately associated with the life activities of a fertile soil. Growers of citrus fruits in Florida use commercial fertilizer in large quantities and in all districts the same practice will have to be followed eventually. Many of the substances applied must undergo certain changes before they can become available. This change from an unavailable to an available state is dependent either upon the action of soil bacteria or chemical agents. Humus forms the media in which the bacteria work, and, furthermore, it holds the plant food when in solution until the roots have a chance to use it. The best and fullest effects cannot be secured from applications of fertilizers to citrus trees unless the soil be plentifully supplied with humus.—From Hume's Citrus Fruits and Their Culture.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

When writing advertisers mention Cultivator.

Hoegee's Handsome Hammocks

ORDER BY MAIL

We have sold a raft of hammocks so far this season. We have some left. We shall carry none over. To absolutely make good this proposition we place the whole lot on the counter during the coming week at

33% OFF
OUR REGULAR PRICE

LOTS OF OTHER GOODS, TOO.
Send for Fishing Tackle Catalogue
Tent Catalogue
Outfitting Catalogue
Athletic Catalogue

THE WM. H. HOEGEE CO., Inc.
PHONES—EX'S 87
138-142 So. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

RESTING ROSE BUSHES.

All roses, which have been established for more than one year, should now be given a rest until our warmest weather has passed. Do not give any more water until about the first of November, then prune judiciously and start them by a good soaking. When growing vigorously, dig in a liberal supply of stable manure and later, if you wish an extra good growth and crop of blooms feed them sparingly of bone meal.

MOVING PALMS, ETC.

Those who have palms and other evergreen plants which need moving, should withhold water from them until the first week in September when they may be changed to their new quarters.

The secret of success in this autumn moving season lies in this class of plants being at that time in a well nigh dormant state, especially if dependent on rainfall for moisture supply. If shifted in September and given plenty of water, enough warm weather remains to start new root growth before the chill of winter comes. If transplanted later, or too early in the spring, the cold, wet weather will induce decay rather than root growth. Do such work when noted, or leave it until February.

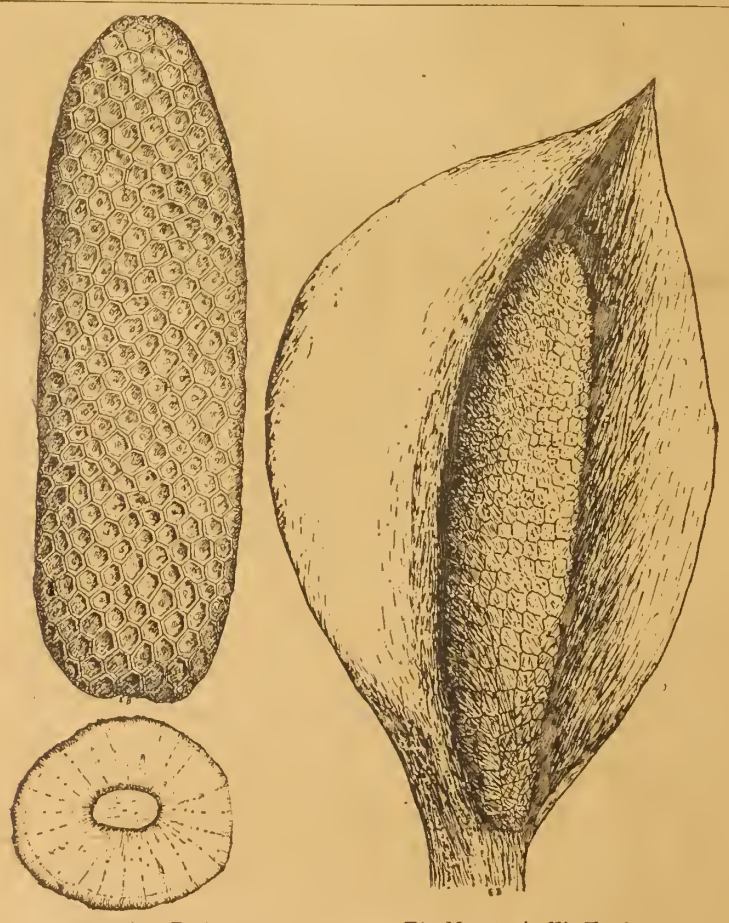
The value of celery to the nervous and irritable person is generally well known, and the laxative effect of fresh, ripe fruits is so desirable that they should be eaten freely daily at meals or between meals.

A DELICIOUS MONSTER.

The name of this curious plant, which is Monstera deliciosa in the botanical world, when rendered into plain English, is as you see in the above heading. It is a very interesting plant to everyone and some little justification exists for calling it a monster, though in every way quite harmless. In California it is a favorite climbing plant for sheltered localities, especially with those who delight in the rare and curious. Though well known in America as a greenhouse plant, its cultivation for its fruit has only recently been attempted,

It has huge perforated leaves, sometimes as much as twenty inches long, and climbs by strong aerial roots of which it seems to have two kinds. The roots by which it grows to the tree are dark brown in color and tough and fibrous in texture, while the others, which appear to serve no other purpose but to feed the plant with air, are much larger, very fleshy and juicy, and present a rather forbidding appearance, as they are spotted, light green and brown; quite like some snakes.

When cultivated for its fruit, it should be allowed to grow on the ground instead of climbing, and this facilitates its propagation as well. Nurserymen and gardeners have been very successful in propagating by cutting the procumbent parent stems in short sections, each with a number of roots attached and leaving them in the position in which they grew until buds and shoots are produced. Whereupon they are transplanted.



The Delicious Part — The Monster in His Hood

"THE DELICIOUS MONSTER"
(Drawings from Life, by the Author)

Notwithstanding its uncanny look it produces a really fine, edible fruit, in taste midway between a pineapple and a banana. In southern Florida considerable attention is being given to this fruit, and it will not be long before it may be obtained in the local markets there, and may eventually find its way into more remote markets. This fruit is difficult to describe—Bailey's Cyclopedia says it looks like a pine cone—our California fruits look more like an ear of corn with densely crowded hexagonal kernels, not disposed in straight rows, but generally spirally arranged.

The real flowers, as in most plants of this order (Aracae), are very small, without calyx or corrola, crowded upon a spadix, as is the case with our well known calla, to which our plant is closely related. Like the calla, this flowered-covered spadix is surrounded with a beautiful white spathe, in many instances quite boatlike in shape. In all there are about a dozen species, natives to tropical America, and all are grown, when obtainable, for their beautiful, and often curious foliage. It really is one of the most unique and interesting plants in the vegetable kingdom, and if grown where the climate is sufficiently warm, will produce fruits of delicious taste. In California the outdoor grown fruits like our bananas, are generally insipid, but in the warmest locations the fruits compare quite favorably with those from farther south.

ODOR OF FLOWERS.

To the vast majority of people, the scent of flowers is simply a pleasure and produces no physical or psychological effect. But there are people so constituted that the smell of certain flowers has a peculiar effect upon them. To some, the scent of hyacinths is most objectionable and their odor produces faintness in others. It is said that Catherine de Medici could not endure the sight or smell of a rose, and Cardinal Guise had a like antipathy to the queen of flowers. With some the scent of the marshmellow flower is said to cause hysteria and the odor of lilies tends to melancholy, while the acrid smell of the marigold induces irritability. The old idea was that the odor of violets encouraged cheerfulness, and rosemary and lavender are still used by old-fashioned people in the country as safeguards against infection and " to keep the moths out." A common form of antipathy to certain plants is the abhorrence with which many people regard any form of fungi. They feel a positive shrinking from this form of vegetable growth and would as soon touch a fungus as they would a snake.

ORIGIN OF PLANTS.

The potato is a native of South America, and is still found wild in Peru. Chili and Montevido. The first notice of it by Europeans was in 1588. It is now spread over a great part of the world. Wheat and rye originated in Siberia and Tartary, where they are now indigenous. Oats are found wild in Abyssinia, and may be justly considered natural to the country. Maize, or Indian corn, is a native of Mexico and other parts of North America. It was not know in Europe till after the discovery and possession of Mexico by the Spaniards. The bread-fruit tree was first found in Otaheite and other South-sea islands. Near the close of the last century, it was transplanted in the West Indies. Tea is found only in China and Japan. The cocoa-nut is found indigenous in the equatorial regions. Coffee is a native of Arabia, and of that part called Arabia Felix, but is now grown in the East and West Indies. The apple is found on most parts of the globe. But in its wild or natural state, it is merely the crab apple, and has been varied and improved by cultivation. The peach is a native of Persia, but in its natural state is small and bitter, or acid, and considered unwholesome. Tobacco is a native of South America and of Mexico. A species of this plant has been lately found in New Holland. Asparagus was brought from Asia; cabbage and lettuce from Holland; rice from Ethiopa and from the East Indies, and onions from Africa and some parts of Asia. The sugar cane is a native of China, and the manufacture of sugar was known there from the remotest antiquity. It was thence carried to Arabia, thence to Egypt, and thence by the Moors into Spain, and thence to the West Indies and Brazil.

CAULIFLOWER SEEDS
$1.50 PER OUNCE
DIRECT FROM GROWER IN DENMARK
AMERICAN ADDRESS KARL KOLLE, 1234 N. 50Av. CHICAGO

LANDSCAPE ARCHITECT
AND
HORTICULTURAL ADVISER
Places, large or small, planted or designed for immediate effect and as they will appear when developed. Persons unacquainted with Pacific coast conditions who intend making homes in California will save time and money by consulting one who has made this branch of Horticulture a special study for eight years.
P. D. BARNHART
2506 Fairmont St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
— ARE RELIABLE —
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino

When writing advertisers mention Cultivator.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

MELON PACKING AT THERMAL.

Now the season is nearly over, growers are already talking about the rest they so needfully deserve. After plowing under the old vines, sowing peas or barley for vegetation, the soil is again ready to be planted for a new crop in the latter part of February or the early part of March. A timely cultivation and irrigation will see a splendid crop of canteloupes about the middle of June. It most surely takes a keen eye to pick the fruit just at the right time, to be shipped and carry satisfactorily such long distances as New York, Pittsburg, and Chicago.

When cantaloupes are ready to be picked they must be fully netted. Should the netting look dull they must not be taken. The netting must be fully raised and must be bright. The creases need not necessarily be yellow. Cantaloupes are picked in common orange picking sacks and put in crates to be taken on a sled to the center of the patch. The patch is picked twice a day all over and picked in two grades, one for east, the other for coast. The coast grade has ripened in such a short time as a half day. The packers size the fruit and pack the same in four different crates, the "pony," the "standard", and the "jumbo" crate and the "special." The pony contains 54 cantaloupes, the standard 45 cantaloupes. A jumbo crate the same as a standard, but, being larger, contains larger fruit; specials are like grape crates and hold 16. Sometimes specials are done away with and packed in the pony crate with an extra half layer.

When the fruit arrives at the loading shed it is closely examined by the inspectors, and should the grower have erred, they are instructed for the better. As soon as the crates are labeled they are loaded in iced cars, which are under cover in the loading shed. Now comes the trouble the cantaloupe shippers have had to deal with ever since the beginning five years ago. When a car has been iced, before loading, the temperature is about 58 degrees. When loaded with cantaloupes the temperature in the car under the roof is about 100 degrees, and on the bottom 70 degrees, a difference of 30 degrees. The puzzle was how to get rid of the hot air in the car. This was accomplished with the Lyon vacaum air blower driven by a gasoline engine. It is placed in the shed the height of the car and is connected with the car, similar to a railroad water tank spout, through a special made ice plug. This blower sucks the hot air out of the car and drives the same air through another car, which is connected with a large canvas hose. Within three hours the car has been brought down to a temperature of 65 degrees. After which the car is reiced and ready to be forwarded.

The very best cars are used for cantaloupe shipments, and the most experienced agents are in charge to see to the icing. The railroads are also hand in hand with the shippers to make a success out of the cantaloupe business, which is only in its infancy. The Southern Pacific, in connection with the Rock Island, have a train which is called the "Expedite," which runs as a section of the regular overland passenger train, making Chicago in four days. Thermal cantaloupes have arrived in splendid shape, solid packed and special New York shipments, which, up to this season, were doubtful.

Much of this success must be credited to M. L. Lyon, a distributor from New York, who represents several firms in large eastern cities who are making a specialty of the cantaloupe trade. The first three cars in New York per expedited freight and Wells Fargo grossed $2000 apiece. Another car by regular through freight, ten days to New York, grossed $1200. Even the second grade melons shipped to Los Angeles and other coast points have netted the growers better than a dollar per crate. Now success in shipping has been reached and taking in consideration that the average yield per acre is 150 crates and the demand more than the valley now produces, no doubt but there is a good future in store for the Thermal Cantaloupe Growers Union.—Wm. Hoogendyk.

THE CABBAGE HAIR-WORM.

The cabbage hair-worm is the subject of Circular No. 62 of the Bureau of Entomology, U. S. Department of Agriculture, the publication of which was made necessary by numerous inquiries in regard to the identity and alleged poisonous nature of a minute worm popularly known during the years 1903 and 1904 as the "cabbage-snake." During the former year the species first attracted attention, but was not considered seriously as it was well known that hair-worms are not in any degree poisonous—in fact they are perfectly harmless and even, to a certain extent, beneficial, as they destroy by parasitism the pernicous coding moth and several species of destructive grasshoppers or locusts. In 1904, however, the subject increased in proportion, the Bureau of Entomology frequently receiving five or six communications daily in regard to this creature. In most cases these were accompanied by clippings gleaned from the daily press. The object of the circular is mainly to facilitate the correspondence of the Department, to place the facts in the case on record and before the public and to correct erroneous reports and mere rumors which have been circulated in regard to cases of poisoning human beings. In only a single case was the name of the person or persons who had been killed by eating cabbage supposed to be infested by this hair-worm given, and the postmaster of the city promptly denied any knowledge of the facts, all efforts that were made to locate the origin of the account being without success. It may be safely assumed that all other reports were equally untrue or greatly exaggerated. In fact, the entire matter was a hoax save for the fact that the rumors were placed in such general circulation that the consumption of cabbage was greatly curtailed, many persons fully believing in the poisonousness of the hair-worm. There is no doubt, on the other hand, that the majority of the reports of damage to the cabbage crop were founded on fact. We have positive knowledge of one of these in Tennessee where fully 85 per cent of the State's cabbage crop was lost in 1904. Similar losses were reported in various portions of Missouri, Iowa, West Virginia, and Virginia. From data at hand it can truthfully be said that thousands of cabbage growers incurred severe losses on account of the unfortunate "scare" due to the unwise circulation of the veriest rumors.

* * *

In support of the statement which has been made by letter by the Department of Agriculture for the past two years, a Dr. Louis Leroy made tests in order to determine whether the hair-worm or "cabbage-snake" possessed any poisonous properties. The usual laboratory animals, rabbits, guinea-pigs, and domestic animals, were fed with the worms, raw and cooked; extracts from the hair-worms were prepared, and the animals fed with them, and the substance was injected hypodermically, the final result being reached, as none of the animals thus treated were affected, that the "cabbage-snake" is entirely harmless and the public rumors and superstitions are fallacies without semblance of foundation.

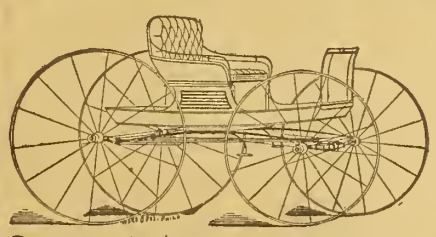
A SECTION WORTH DEVELOPING.

The Cultivator is in receipt of a letter from Courtney Gilbert of Globe, near Porterville, in which he refers to a valuable foothill section in the upper Tulare river as worthy of more extended knowledge. He says, "We have here a foothill region above the citrus belt say 1500 to 3000 feet altitude, comprising valley and mesa lands which in my judgment comprises the best wine and table grape land in the world. Above Springville is what we call Mountain View country where hundreds and even thousands of acres of the best kind of land is now used for grazing purposes." The writer says regarding this that abundance of water may be secured in spring and early summer. The correspondent has no practical suggestion as to how to get these lands occupied by fruit growers, but takes this means of extending the information of such a vast amount of land being open for improvement.

Reports from Sonoma county go to show that Commissioner Bremner has been most successful in the establishing of colonies of Ephilates and that some excellent work is being done with the codling moth by this little imported friend. Similar good reports are received from a number of northern counties and much hope is felt by apple growers as to the ultimate outcome of the importation of this parasite.

When You Buy a Buggy

BUY THE BEST



FOR APPEARANCE
FOR COMFORT
FOR DURABILITY
FOR YOURSELF AND
FOR THE FAMILY

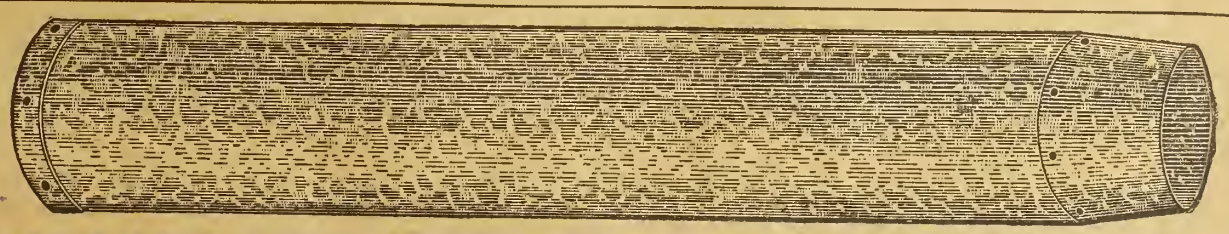
Studebaker Buggies Head the List

All parts are made from the best material by skilled workmen who have spent years at their trades. Nothing is slighted; nothing is poorly done. They are the best buggies in the world. An investment in a STUDEBAKER will bring a big return in satisfaction and comfort for years. We are general agents in this territory.

NEWELL MATHEWS CO. 200 N. LOS ANGELES ST. LOS ANGELES, CAL.

Our Catalogue is sent FREE upon request.

When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** W make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** *WRITE FOR CATALOGUE*

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR
AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, July 21, 1905

CONTENTS.

	Page.
Advantages of Ensilage	51
Stand Together	52
United Packers and Growers	52
Discontinuing Experiment Sta.	52
Beneficial Parasites	52
Successful Beekeeping	53
Food Value of Honey	53
Destroying Wild Mustard	54
Scutellista	55
Clean Culture	55
Floriculture and Gardening	56
Melon Packing at Thermal	56
Cabbage Worm	57
Editorial	58
Pacific Coast Notes	59
Feeding Farm Horses	60
Capturing Coyotes	61
An Unjust Method	62
Moulting	63
Poultry Question Box	64
Value of Poultry Manure	65
Business Notes	66
Queries and Suggestions	67
Household	68-69
Market	70-71
Climate and Crops	71

Graft in High Places.—The sad plight in which Senator Mitchell of Oregon finds himself as the result of a deliberate prostitution of his high office, ought to serve as a lasting warning to public men to be honest in the discharge of the duties embraced in public office. Senator Mitchell has been convicted of a violation of the federal law which forbids a senator from accepting compensation for advancing the cases of constituents before the various departments of the government. The evidence introduced in the trial showed that for a consideration he had agreed to use his "influence" with the commissioner of the land office in working through some of the shady games which have been worked by the land looters of the far west, and which, thanks to the vigilance of Secretary E. A. Hitchcock of the interior department, are being exposed, and those implicated brought to the bar of justice.

The charge that other United States senators are just as guilty as Mitchell is not to be accepted as a plea in mitigation. Those who are tarred with this very same stuff may get what is coming to them in due time.

Senator Barton, of Kansas, fell a victim to the same violation of law, and now awaits decision of the Supreme Court of the United States to confirm or set aside the judgment of the Federal Court which convicted him.

The condition in which both these men find themselves challenges both pity and contempt. Both highly honored, might have been a lasting credit to their respective States, and their names might have gone down in the annals of the nation, and in the love of their families for all time as monuments of honor and integrity. That the Supreme Court of the United States will confirm the judgment of the lower courts, and the sentences imposed by them, no well advised person doubts for a moment.

From the Senate chamber of the nation to a cell in the penitentiary is an awful fall indeed, but is the working out of the eternal law of justice meted out to all who disobey the edicts of common honesty among men. No less glaring and sensational are the exposures being made in other lines of business, as for instance, in the affairs of the Equitable Life. Senator Depew, in accepting $25,000 as a retainer fee, simply because he has a great name, as is alleged, favors a doubtful transaction, and may result in his overwhelming and everlasting confusion.

There seems to be a deadening of the consciences of our public men. The burning desire for gold has turned their minds and hearts, until they do not seem to realize the enormity of the offense of graft, nor influence it is having on society. But this cycle of frenzied effort for wealth will pass away, before long, and public officials will come to realize that it is wise and best and popular, as well, to be honest in the discharge of the duties incumbent upon them. In short, there is coming a better day for the world, when wars shall cease, more honorable dealing in business prevail, more attention be given to the cultivation of the good there is in life, and less effort to exhaust our vitality in the strenuous endeavor to amass wealth to the exclusion of every other sentiment or ambition.

* * *

Prime Cause of Discontent.—Sometimes we think the really poor of the world have a reasonable cause to complain at the lavish, foolish and we may say, criminal expenditure of money on the part of the very wealthy.

Multi-millionaires who annually spend a hundred thousand dollars on a single child, and make free to publish the fact to the world, are making anarchists and haters of the rich, by men and women who can barely accumulate enough to keep their souls in the body. We wonder why, at times, this feeling of hatred of the rich is growing, but when we read incidents like the following, we can not wonder much. The story comes from London, that a two and a half year old baby gave the exclusive Claridge hotel a sensation this week which it will not soon forget. He is W. B. Leeds, Jr., son of the steel plate multi-millionaire, ex-president of the Rock Island railroad. Not even an heir to royalty could have more elaborate care or more luxurious service than this little American. It is the wonder of the hotel, the hotel, by the way, where every other guest is a multi-millionaire, and where ordinary lavishness goes without remark.

Young Leeds arrived from Paris with Mamma and Papa Leeds in a big touring car. The parents had tried to get the royal suite for the use of the youngster, but this was already occupied, so they hired two other suites, comprising six bedrooms, two drawing rooms, a good sized and highly expensive slice of Claridge's, half of which was devoted to the infant. Baby Leeds has two drawing rooms, two bedrooms, a sitting room and a bath room. When they reached Claridge's from the continent the Leedses carried forty trunks and most of these contained the wearing apparel and other property of the heir.

The laboring man who reads this, whose child is just as dear to him as the "royal" baby Leeds is to its father, and who toils from dawn to night to give that child the bare comforts of life, without its luxuries, will not be the better contented when he realizes the criminal extravagance lavished on this bundle of babyhood no better than his own.

If people will be such fools, why do they permit their folly to be made public? Do they not see the fire of hate they are kindling in the hearts of thousands of the country's poor steadily grow? Some day, it will break out in one awful conflagration, and nothing outside of God's omnipotent hand can stay the tide of vengeance these suffering poor will wreck on those who they believe have robbed them of what belongs to them.

We have no sympathy with anarchy, or any of its tendencies nor teachings, but we all know something about human nature, and we do know that history repeats itself. It is the Leeds', the Schwabs, and the unholy leaders of the trusts and combines who are spreading discontent among the common people. It is these whom the country has to fear, at the present, more than the anarchists—their day will come later if things do not radically change along the lines the vastly rich are following. They alone are to blame for much of the class hatred in the world today.

* * *

Busy Fruit Season.—If the tourist who has in mind a residence in California will ride out to Toluca, in Los Angeles county, he will be surprised at the extent of the fruit industry. This is not the only place in the county and the State, where deciduous fruits abound and where ranch owners are becoming independent, but it is a fair sample of what a community may do in the way of building up an enterprise where climatic conditions, soil and irrigation or independent moisture, abound, and where the people understand these conditions and make the most of them. In the district of Toluca, comprising but a few square miles, there is a stretch of country probably unsurpassed in California for the raising of apricots and peaches. In this district it is not uncommon to secure a crop of 1500 tons of apricots, and often this amount is greatly enlarged, owing, of course, to the season's rainfall. The rancher realizes, this year, a cent a pound for his fruit green, and the yield, per acre, averages $20. Considering the labor put on the orchard, this is easy money compared to what the farmers in the middle west realize. There they toil from dawn to dark, and are satisfied if they can raise, on the average, 40 bushels of corn, or 15 bushels of wheat, and receive in the market 25 cents per bushel for their corn and 60 cents for their wheat.

The California farmer has a snap in the ease with which he raises his crops, and he is always moderately sure of remunerative prices. Not always so with the eastern farmer, for so many interferences come in, as is the case this year, that he obtains both meager results in crops and inferior returns in prices.

* * *

Peaches.—This year, the ranchers about Toluca will reap a light harvest in peaches. Were the yield normal the crop would reach 3000 tons. It will run about half this amount, or 1700 tons, possibly. One rancher sold the fruit from 750 trees for $1000, which he does not consider anything extraordinary, having done better than that in some former years. Peaches in the Toluca district are selling this year at $31 a ton for clings, and $20 for frees, f. o. b. Naturally, land is valuable in this district, as it is in any district where water is obtained at a depth of 35 to 60 feet, and readily brings from $250 to $300 where the improvements are fairly good.

There are five large drying plants in Toluca, which, when running full, employ 500 hands, these averaging $1 and $1.50 a day. It is a really interesting sight to note this little army of workers, many of whom are children, not over ten years of age, as they fill their trays with a dexterity which many of the older men and women can not attain.

* * *

Walnuts.—The culture of walnuts is a lucrative business in the Toluca district, and the more enthusiastic growers make bold to declare that in quality they are equal to the Anaheim walnuts. Certainly the residents of the district have faith in the walnut proposition, for an increased acreage is being planted this year. We simply call attention to the productiveness of this district to show what may be done by an intelligent, industrious community working toward a common end and favored by climate, soil and water, and a great big amount of faith in their locality and its future.

* * *

Successful Woman Farmers.—Since the government gave out the names of the 120 girls who have won free homesteads in South Dakota, Colorado and Idaho, interest has been aroused to learn how they are succeeding in their venture. A government agricultural inspector has recently paid a visit to twelve farms, the home of twelve unmarried women, to ascertain what progress they are making and the report he files is interesting and full of suggestions. He finds these farms in excellent physical condition, well stocked, clean, with excellent growing crops and a fair start in accumulating certain luxuries which may be had, even on a homestead farm. These young women, some of whom had no experience in farm life, have gone into their work with a zeal which guarantees success from the start, and although unmarried, have so organized their business, on co-operative lines, as to assist each other in their work. They unite in putting in crops, in harvest work and threshing, and vie with one another in making their homes attractive. Here is a new sphere for woman's work which promises success and independence, as well as bringing with it health and happiness.

It's a far pleasanter occupation than school teaching, or bookkeeping, or clerical work of any kind, because it will bring competence, without mental strenuousness, which, after all, is the consideration most desired.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The prune crop in the Pajaro valley, while not heavy, promises to be of fine size and good quality.

At Lemon Cove, Tulare county, a large citrus packing house will be built at once by the Kaweah Lemon Co.

Over two thousand acres of soft shell English walnuts were set out in the La Habra district, in Orange county, this year.

Toluca valley apricot growers are rejoicing over the fact that this year makes the fifth heavy apricot crop in succession.

The Limoniera Company, at Santa Paula, shipped from its ranch seventy-one carloads of lemons during the month of June.

The work of drying apricots in the Santa Clara valley, Ventura county, commenced last week. While the fruit was slow in ripening, yet the crop was very good.

A dispatch from Orangevale, Sacramento county, states that fifty to seventy-five per cent of the grapes and fifty per cent of the plums were ruined by the recent hot spell.

The Sonoma County Farmer of last week states that apples in that district were considerably damaged by the excessive hot weather; also that hops were checked in their growth.

More than three hundred and fifty workers are employed cutting apricots daily at the Gregory drier west of Redlands. The output of this drier is expected to run close to fifteen hundred tons.

The apricot crop in the Suisun valley was all picked and dried by the end of last week. Owing to the hot weather the week previous, the yield was considerably less than had been anticipated.

H. P. D. Kingsbury of Redlands, announces that he will enlarge his marmalade and preserve factory and also the orange packing house owned by him and occupied by the Golden State Orange Association.

The returns of the May shipments of the Late Valencias made by the Whittier Association show a net price of $2.05 for choice packed. The average price for the entire month's shipments was $1.88 per box.

The late spell of hot weather had a disastrous effect upon the berry crop through nearly the entire northern half of the State. While some sections were only lightly hit, yet in others the crop was almost destroyed.

Thomas Hooker, of Highland, picked 3052 field boxes of Valencia orange off the trees on five acres. For these he received $1740 net. This is 57 cents per field box, or $358 per acre. Which same is not a bad showing.—Redlands Citrograph.

The big fruit cannery at Healdsburg was started in operation this week by the Healdsburg Fruit Association. A new invention has been placed in the cannery by which the peaches are pealed by steam in place of being done by hand by women as heretofore.

Wineries are bidding $10 per ton for Sultana grapes at Orosi. Growers claim that it will pay better to convert them into raisins owing to the shortage of Muscat grapes. Watermelon growers at Orosi say that the crop will be very short, owing to the ravages of a small black bug damaging the vines.

G. Harold Powell of the United States Department of Agriculture says he has conclusively demonstrated from experiments in the Sacramento valley that ripe fruit, well refrigerated before shipping, will arrive sound under ordinary railroad refrigeration even after being from ten to fifteen days en route.

Our correspondent in Sonoma county writes us that what is called the Vine Hill district, west of Santa Rosa, bas a good crop of prunes this year. Some sales of green fruits are reported at $29 and $30 per ton, to the grower. A very fair crop of apples is reported in the northern end of Sonoma county, drying and shipping of the fruit now being in progress. Growers get $8 per ton for apples, for drying; packed 4-tier Gravensteins bring about $1.10.

The Highland Orange Growers Association at an annual meeting recently held, re-elected Robt. Thompson as manager for the next year. The report as filed shows that the season for the association has been a most successful one. The association has paid to the members $42,799.05 net, receiving $1.08 per hundred for every navel orange that has been hauled into the house, which amounted to 3,958,226 pounds. New additions are to be made to the packing house.

The Pomona Times states that: "The San Antonio Fruit Exchange has already received to date for fruit shipped $825.000. There are over 50 cars of fruit from which the money has not been received and 150 cars of Valencias and lemons yet to ship. The total receipts of the San Antonio Fruit Exchange for the previous year were only $763,000. The manager expects the total for this year will be about $950,000, depending upon the number of cars of lemons and Valencias that will be shipped during this and next month."

A. R. Sprague of Sacramento says that he has invented a machine by the use of which an iced car filled with hot fruit, which ordinarily retains its heat for three days after shipment, can be thoroughly cooled in a few hours by a stationary apparatus applied to the ice tanks and drip tubes of the car. He says that a carload of peaches, half of which were overripe, was thus cooled at Oleander, Fresno county, July 1, and sold at auction in Chicago July 10 for $1132, every box having arrived in good condition.

The Highland Orange Growers' Association declared its last dividend last week, when $5500 was divided among the thirty-five stockholders. According to the association's annual report, $42,799 net has been paid to the members—$1.08 per hundred has been received for navel oranges, of which 3,958,226 pounds were hauled into the packing house in the season. Including all expenses, the packing has cost 28.94 cents per box through the entire year. The shipments of this association have amounted to 270 cars, of which thirty were lemons.

AGRICULTURE.

It is reported that hop picking in the Durst hop yards near Wheatland will commence about August 20th.

The last of one hundred and fifty cars of the cantaloupe crop of Coachella for 1905, was shipped last Saturday.

The Pauba ranch, in the southeastern part of Riverside county, was sold last week to Harry L. Heffner, of Arizona. The ranch consists of 38,000 acres of land and valuable water rights.

Beet growers commenced hauling their product to the Oxnard factory last week and on Monday of this week the big factory commenced the 1905 campaign, which is believed will be the record breaking run of its history.

Three hundred thousand sacks of grain is the estimate for this year's corp in the San Diego country on the coast side. Of this amount, the Fallbrook country will have nearly 150,000 sacks, and Escondido valley will have about 115,000 sacks, and the El Cajon valley nearly 50,000 sacks.

The Ventura Board of Trade will send two thousand sacks of lima beans and two thousand sacks of beet sugar to the Lewis and Clarke exposition to be distributed free on Ventura County Day. These sacks will not be of the usual size, only being large enough to contain a sample of two of Ventura's staple products.

The Hollister Free Lance reports that a Mr. Champaign has forty acres of chili peppers growing in the San Juan valley, the yield of which promises to be large. Offers for the crop have been made which will give a handsome return for the investment. Mr. Champaign intends setting out one hundred acres of chilis next season.

The grasshoppers in the vicinity of Wheatland are reported to be becoming troublesome and the farmers are making a decided effort to get rid of them. P. C. Dresher has built a large machine on runners about nine feet wide and sixteen feet long, which is drawn by horses through the field. The grasshopper fly against it and fall into the trough of oil which kills them.

The big Dixie Thompson ranch adjoining Ventura will not be sold, but will be subdivided into small tracts and leased for a term of years to farmers. This ranch consists of 2500 acres of fine bean land and is known as the largest lima bean ranch in the world. The owners announce that they will put in a pumping system on the ranch which will cover every acre with water.

LIVE STOCK.

A new creamery has been started near Tehama.

M. J. Groshong & Co. have opened a poultry supply store at Burbank and report a good business from the start.

Wm. Hanna, the owner of the creamery plant near Pleasanton, recently destroyed by fire, has made arrangements to rebuild.

Several carloads of fat cattle were shipped from Santa Maria to the Cudahy Packing Co., at Los Angeles, last week.

Joe Muscio, a dairyman and cattle rancher near Los Alamos, has decided to put in a big irrigation plant to irrigate part of his ranch.

The Newhall Land and Farming Co. shipped 1500 head of fat steers from Santa Maria to the Western Meat Co., in San Francisco, last week.

It is reported that Messrs. Ahler and East, of Santa Ana, will build two creameries in San Luis Obispo county, one at Cambria and the other at Cayucos.

Great forest fires occurred in the upper part of Yuba county last week, burning over hundreds of acres of timber, besides causing great loss of cattle and other live stock.

A stock company last week bought the five hundred acre farm of the G. Sieber Co., near Marysville, and will engage in the dairy business in a large way. Three hundred cows will be milked and a skimming station erected on the ranch. The price paid for the ranch is said to have approximated $200 per acre.

The old Dairy Exchange of San Francisco, which suspended several years ago, has been started anew under the original charter. About twenty-two firms, brokers, etc., have joined the organization and adopted, with a few minor changes, the plan of organization recommended by the committee that had been selected at a previous meeting.

The repeal of the quarantine against American sheep and cattle which has closed the ports of Australia to breeders and stock men of this country has resulted in a demand from the Australian ranchers for American stock. Henry Glide, who has a cattle and sheep ranch near Sacramento, last week sold a nice bunch of French Merino sheep to an Australian for breeding purposes. Mr. Glide recently shipped sixty head of sheep to South Africa and another large shipment will be made to Honolulu next week. He exports annually about five hundred head of sheep to France, England, Germany and Africa.

MISCELLANEOUS.

A carload of honey was shipped from Redlands to the East last week.

The forestry school has been in session for the past ten days at Idyllwild.

The bee men about Elsinore report the disposing of a part of their honey crop at the price of ten and a half cents per pound.

The official call has just been issued for the meeting of the National Irrigation Congress, to be held at Portland commencing August 21st.

A cold storage plant is to be built at Port Kenyon, Humboldt county, at once. The building will be sixty by one hundred and fifty feet in size.

The State Superintendent of Public Instruction reports that the number of school children between five and seventeen years of age in California this year is 419,275, an increase over last year of 11,871.

The Chamber of Commerce at Eureka have agreed to furnish a bonus of $3000 to the District Fair Association if they will hold a fair in Humboldt county this fall. This amount the directors of the association believe will save them from loss equal to that they sustained last year.

C. H. SESSIONS, ASSOCIATE EDITOR

FEEDING FARM HORSES.

The difficulty of keeping horses in good condition during the hard work of mid-summer is a problem for the farmer who wishes to crowd his team up to its capacity. The following contains some good suggestions, which are noted in the O. J. Farmer:

There is no hard and fast rule that can be laid down as the only proper way to care for horses during the summer months, when they are hard at work. Local and individual conditions enter as factors, and in a measure determine the most practical way. There are, however, some fundamental principles concerning the feeding and care of horses that may be profitably discussed.

Almost everyone has noticed a great difference in the general thrift and condition of horses used on different farms. It is quite evident that some men through their system of feeding and care are able to keep their horses in first-class condition while doing a maximum amount of work, while other men fed their horses at a greater expense and yet maintain them in poorer condition.

* * *

Feeding Horses at Work.—The problem of feeding the horse when at work is quite different from the problem of feeding the pig or steer. The horse is fed for the production of energy, while the pig and steer are fed for the production of new body tissue. The feeding of the horse can more properly be likened to the firing of a steam engine for the production of energy. Before there can be any work done by the engine enough fuel must be supplied to raise the temperature of water to steam. Additional fuel will convert the engine from an inert piece of matter into one that can do work. The same principle is true with the horse. A certain amount of food is necessary to repair waste and maintain the animal body. Additional food added to the maintenance ration will enable the horse to do a certain amount of work and yet maintain his body weight, or, in other words, not lose flesh.

* * *

General Rule for Feeding.—A general rule is that a horse requires one pound hay and one pound grain per 100 pounds live weight when doing medium work. At hard work the grain part of the ration should be increased up to 1¼ pounds per 100 pounds live weight, in order to have the animal maintain his body weight. If the horse is doing such severe labor that he is losing flesh and it is considered necessary to increase his grain above this point, which is seldom necessary, the quantity of hay should be decreased. Great care should be exercised in making this change, for there is then danger of disorder of the digestive system. The more concentrated a food is, within proper limits, the less the percentage of energy needed to make it available. When horses are doing light work less food will be required, and the percentage of roughage to concentrates may be increased.

* * *

Observe the Laws of Health.—In order that there may be no disorder of the digestive system, the laws of health must be observed. It has long been known that the stomach needs a large supply of blood when called upon to perform its function of digestion, and in order that the process may be carried out undisturbed the horse should not be worked soon after a heavy meal, as that would call the blood elsewhere in the body and arrest digestion, which may cause indigestion or colic. As a horse does not have long for the consumption and digestion of food in the morning and at the noon hours, he should not be given a heavy feed at these times. A good plan is to give a light feed in the morning and at noon, and a heavier feed at night, when the horse has plenty of time to consume and digest it. Those who have used both horses and mules know that a mule will thrive better than a horse under careless or unskilled treatment in feeding. The mule seems to have sense enough not to gorge himself with feed in the morning or at noon, but consumes a large part of his ration at night.

* * *

Division of Daily Ration.—A good rule is to give 3-10 of the grain in the morning, 3-10 at noon and 4-10 in the evening. The combined amount of hay fed at the morning and noon feeds should equal that fed in the evening. Where a 1200-pound horse is being fed in the above way he would get three pounds hay and 4.5 lbs. grain at morning and noon and six pounds hay and six pounds grain in the evening. Some successful horse feeders divide the grain into three equal parts and feed all the hay in the evening, none at morning and noon. Of course the horse will not eat all of the hay at once, but will consume most of it before the next morning. On Sundays and idle days the grain should be reduced one-half of the total amount if the horses have been consuming large amounts of grain. This is necessary for the prevention of "azoturia," which is likely to occur as a result of heavy feeding of grain when idle.

CLEAN BUTTER PACKAGES.

Regarding the advantage of neat butter packages a writer in the Creamery Journal writes:

"All creamery men are desirous of getting fancy prices for their butter, but many evidently do not realize that it requires at least ordinary care to secure these prices.

"The value of all foods is materially enhanced by marketing them in attractive packages. Manufacturers appreciate this so thoroughly that many common products, which have hitherto been sold in bulk to retailers, are now furnished in neat and attractive packages, which the retailer is not in a position to provide. It is the exterior by which we commonly judge things, and when we find a lot of dirty, poorly-covered tubs we at once conclude that they contain an inferior quality of butter.

"Frequently it happens that clean tubs are hauled to the station in a filthy wagon box. Do not permit your butter to be transported thus, but clean the wagon box before loading. All this will usually require is a broom,

24 YEARS WEAR NO REPAIRS

SEPARATOR FACTS

43 YEARS WEAR 75¢ REPAIRS

Just facts—that's all you want. Facts can't hurt you nor Tubular Cream Separators. Facts prove Tubulars outwear all other makes five to ten times over.

On August 2d, 1904, we started a No. 9 hand driven Dairy Tubular, rated capacity 900 lbs. per hour, on the hardest test a separator was ever put to—an endurance test to last until the wearing parts give way. This Tubular has now run 50 hours a week for 43 weeks—and is still running. Every week of this test is equal to a year's service in a ten cow dairy. No other separator made could stand such a test.

24 Years' Work—No Repairs		43 Years' Work—75c Repairs	
Hours run	1,200	Hours run	2,150
Pounds separated	1,080,000	Pounds separated	1,935,000
Turns of crank	8,155,760	Turns of crank	5,652,070
Turns of bowl	1,152,000,000	Turns of bowl	1,864,000,000
Oil used	8 quarts	Oil used	5¾ quarts
Time oiling	About 4 min.	Time oiling	About 7 min.
Time adjusting	None	Time adjusting	10 min.
Repairs	None	Repairs	75 cents

After 24 weeks, the balls in the frictionless bearing supporting the bowl showed wear. This was natural, for each had rolled over 32,000 miles. Renewing balls cost only 75 cents and ten minutes adjusting, yet made this Tubular as good as new. All Tubulars are equally durable. Catalogue P-260 tells about them. Write for it today.

THE SHARPLES SEPARATOR CO.

Toronto, Canada West Chester, Pa. Chicago, Illinois

MEALFALFA

Reg. U. S. Patent Office

For CATTLE, HORSES, HOGS and POULTRY

The Food for Dairy Cows In its form you can get the most favorable results in mixing. Use about 50 per cent with other grains. When wet it makes a huge, bulky food, keeps cows in fine condition and increases the flow of milk.

Mealfalfa is a green protein food and a dilutant that cools the system. It is a very essential food for calves. Being a protein food it makes blood, bone and muscle, causes them to grow rapidly, makes them fat and gives a better grade of veal. Mix with skim milk and you will get a wholesome food of bulk.

☞Get a trial order from your dealer and save money on your feed.
☞If your dealer does not carry Mealfalfa, write us for free sample, prices and particulars.

Stockton Mealfalfa Co.
STOCKTON, CAL.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON

884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.

DE LAVAL SEPARATORS

AND OUR LINE OF DAIRY AND CREAMERY MACHINERY

are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.

DE LAVAL DAIRY SUPPLY CO.

9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

When writing advertisers mention Cultivator.

a few pailsful of water and three minutes of time.

"In speaking of butter tubs it is well to call attention to the importance of storing them in a clean, dry place. Mould will not develop in them so long as they are kept dry. It is likely, however, that the pores of the tubs contain mould spores which are readily destroyed by soaking the tubs in water about an hour and then steaming several minutes. Many make the mistake of steaming the tubs when dry, which renders the steaming less efficacious than in the case where the tubs have been previously soaked.

"Another aid in the preventation of mold is to give the tubs a thin coating of salt before lining, and to soak the liners in strong brine, which acts as a disinfectant.

"It is well to remember also that if the creamery is damp and poorly ventilated, and possibly shows of mold, the tubs may be infected with mold germs over night if the steaming and soaking has been done the preceding afternoon, as is frequently the case. If a tank is used for soaking the tubs the water in this tank should be changed daily and the tank kept scrupulously clean, to insure against contaminating the tubs with mold germs."

CAPTURING OF COYOTES.

The Department of Agriculture has just issued Farmers' Bulletin Number 226, on "The Relation of Coyotes to Stock Raising in the West." From which we take suggestions regarding destruction of this pest. There are, however, statements in the book showing the vast advantage this animal has been to many agricultural sections in the keeping down of jack rabbits and other pests which are even worse than the coyote. But, in the whole, the report considers the coyote of more damage than advantage. The average of all the Western States is said to show a loss to sheep raisers of over five per cent. Of course, the vast losses to poultry raisers are also well known. From two methods, that of poisoning and the use of traps, we quote:

* * *

Use of Poison.—Poison has probably killed the greatest number of adult animals, and in parts of Mexico has almost destroyed some of the species, but no such success has followed its use in the United States. Strychnine is the favorite poison, and is, all things considered, the only one suitable for the purpose.

"In the use of strychnine, the dry crystals of strychnia sulphate are generally preferred, as the poison in this form is really soluble. The poison is inserted with a knife in small chunks of meat or in the carcass of some animal and left upon the prairie. The meat should be handled as little as possible, and if small pieces are used it is best to distribute it from horseback along trails used by the wolves. The animals are very cunning in detecting and avoiding poisoned meat, and some hunters are successful in allaying their suspicions by burying the bait.

It should be remembered that poisoned baits are as likely to attract dogs as wolves. When poison is to be used the entire neighborhood should be informed and valuable dogs should be confined until the operations are over and all uneaten baits destroyed.

* * *

Use of Traps.—Coyotes are not easily trapped. Some skill and a good knowledge of their habits are requisites for success. They travel in rather well defined paths and usuallly hunt against the wind. Having a keen sense of smell, they easily detect the tracks of men, and if they have had previous experience of traps or guns they are suspicious of danger. In the wildest parts of the country remote from settlement they are more easily trapped. The chances for successful trapping decreases with their familiarity with man, so that there is little probability that the process will ever have much effect on their numbers.

"A number three steel trap is generally used. A suitable place is selected along a narrow path or trail and the trap is sunk in the ground level with the surface and concealed with fine grass, leaves, or other material that will harmonize with the surroundings. At the same time care is taken that the material used shall leave the jaws of the trap free to spring clear of the covering.

"The trap should be fastened to a bush or stake, or, if these are not available, to a clog. For the last a pole lying on the ground is best, since it may be utilized without moving it or disturbing the surroundings. If the trap is anchored to a bush or small tree the chain must be securely fastened with snap or wire. A stout stake over which the ring will not slip, driven out of sight into the ground, is better. Every part of the trap and chain is covered, and the ground left in as natural and undisturbed condition as possible.

"Any kind of fresh meat will do for bait—rabbits and other small rodents are often used, but larger baits seem to be more attractive. It is also of advantage after setting the trap to make a "drag" of the bait for a quarter to a half mile, at the end of the rope from the saddle horn, and finally to fasten it to a bush or stake close to the trap, or cut it in bits and scatter all around the trap, so that not all can be reached by the coyote without walking over the trap. The skill of the trapper and the situation of the trap will determine the best arrangement. The suspicion of the coyote is lessened apparently after following the bloody trail of a well-planned drag.

"Before setting the trap many trappers rub their feet and hands on a skin or some strong-smelling meat or carcass to conceal the human odor. Oil of anise or rodium is sometimes used for the same purpose. Any strong odor is likely to attract the attention of the coyote and allay suspicion. Care must be taken not to spit on the ground or kneel or throw down any clothing in the vicinity of the trap. A good plan is to set a line of traps and leave them for a day or two, and then go the rounds with a horse and drag and bait the traps without dismounting."

WHEN TO BREED HEIFERS.

A correspondent from southeastern Minnesota wants to know when to breed his heifers. He is of the opinion that they should be three years old by the time they drop their first calf, but says that many of his neighbors have them come in when they are two years old. He would like to get our opinion on this question.

Whether to have the heifers come in when they are two or three years old will depend somewhat upon the breed of cattle our correspondent is raising, his method of feeding, and the individuality of his animals. The earlier heifers intended for the dairy

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

J. A. Campbell C. W. Campbell
La Palma Stock Farm
We now have some of the very finest registered Poland China pigs of both sexes for sale. Also a few registered Jersey cattle, either sex.
BUENA PARK, CAL.
When writing advertisers mention Cultivator.

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
Jerseys with a record as milk and butter producers
Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams, for sale.
L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

The Lemonita Herd
OFFERS FOR SALE
VELA HASTINGS, 119615 A. J. C. C.
Born Oct. 15, 1895; Fresh July 2, 1905; Bred July 11, 1905, to Sargent Fox, 64833
Authenticated Yearly Butter Fat Estimate: Milk, 7486 lbs., 3 oz; Butter Fat, 450 lbs., equal to over 529 lbs. Butter **Price $150**
Address **Leffingwell Rancho, Whittier, Cal.**
When writing advertisers mention Cultivator.

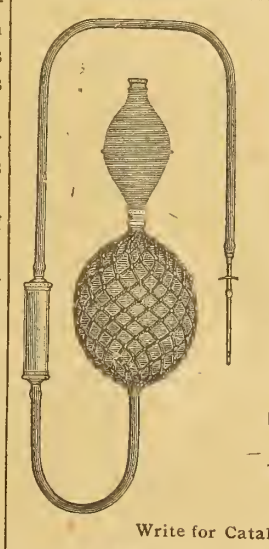
GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA
When writing advertisers mention Cultivator.

Holsteins For Sale
From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.
MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD
DAIRY SHORTHORN BULLS FOR SALE
Admiral Dewey 183493 and King Edward 184393 at head of herd. Address
Fred Fuller & Bro. Imperial, Calif.
When writing advertisers mention Cultivator.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Milk Fever Outfit
FOR STERILIZED AIR TREATMENT

This treatment has cured 97 per cent of cases treated and is recommended by the Bureau of Animal Industry, United States Government Department of Agriculture. The outfit consists of the instrument as shown and in addition a roll of tape and a package of carbolized cotton and full directions, neatly packed.
Pos paid, $2.00
Milk Testers, 50c; set of four, $1.50.
Teat Slitters, $1.50 postpaid.
Write for Catalogue
STOCKMEN'S SUPPLY CO., FRESNO, CAL.
When writing advertisers mention Cultivator.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.
When writing advertisers mention Cultivator.

are bred, other things equal, the better cows they usually make. This does not mean that dairy heifers should always come in at two years of age, but it does mean that if they are large and vigorous it is better to make them come in at the age of two years than to wait another year. As a rule, Jerseys, when properly cared for, have practically matured when they are two years old, and it is, therefore, better to have them come in at that time.

We are aware of the fact that there is difference of opinion on this point. Some claim that a heifer should be matured before she is bred, while others claim that she should come in at that time. We agree with the latter view. A great many successful dairymen breed their heifers before they are matured with good results. Holsteins do not mature quite so early as do Jerseys, consequently a Holstein heifer should be about six months older when she drops her first calf than a Jersey. Our correspondent and his neighbors may all be correct from their own standpoints. One often sees a man whose cattle are as large when they are two years old as another person's cattle are when they are three years of age, in spite of the fact that they are practically of the same breed. The reason for this lies almost wholly in the method of caring for them. It is important that young stock should be kept growing from the day of birth until maturity, and if they are, a good rule to follow is to have the heifers come in about the time they mature.—Bulletin.

AN UNJUST METHOD.

The course taken by the mayor and health board of Los Angeles in giving the conditions in several of the dairies about the city was, we believe, unwise and even unjust. The mayor and members of the Board of Health made the rounds of the dairies and found that, which is too often true, many of the dairies were unclean in several particulars. Others were careless, especially as to allowing flies to be too free about the milk house and other features were discovered which were not to the credit of the dairies investigated. It may possibly be, so far as we know, that the findings of the mayor and his board were absolutely correct. It is not the mission of the Cultivator to appeal for a lowering of the conditions in dairies which are supplying milk to cities or cream to creameries. The injustice of this method was in that it injures the entire dairy industry and does not necessarily correct what was found to prevail in some dairies. The health board has it absolutely in its power to deny the dairymen the privilege of selling their product in this city if they are careless or unclean in their methods. That could quietly have been done, or at least some method taken by which the desired end could be accomplished without raising a great hue and cry and using the newspapers to accomplish that which the board should have had nerve enough to accomplish for itself in the regular and proper way.

We say it injures the entire industry which it does by the creating of the feeling, especially at such a season of the year as this, in the minds of many consumers that restrains them from consuming this most wholesome and desirable food. This, as we have said before, injures the entire industry, for the public does not stop to discriminate between innocent and guilty and classes the whole collection of dairymen with those who may be unclean.

VELA HASTINGS.

As will be noted in another column, C. W. Leffingwell, Jr., of Whittier, is offering for sale Vela Hastings, the cow which made the remarkable record spoken of in the Cultivator a few weeks ago.

Regarding this cow, Mr. Leffingwell writes:

"In offering for sale our grand cow, Vela Hastings, we are marking an epoch in the development of our herd, as we have now reached a stage where we have all the pedigreed cows in milk for which we have room and it will be our policy from now on as our heifers develop to make occasional offerings of matured cows. To prove to the public what these cows can do we have been subjecting them for some time to yearly authenticated butter fat tests, it being our desire to give full value for money received and to base our prices on what our stock is actually worth so that every buyer shall be more than satisfied.

Vela Hastings is the first to complete her year's record, which entitles her to registry in the Register of Merit maintained by the American Jersey Cattle Club. Considering the small amount of grain consumed during this record it stamps Vela Hastings as a remarkable producer and she is today at her prime, full of health and vigor and giving more milk than she did last year while making her record. We shall be disappointed to see this cow go, but we have her daughters and granddaughters in our herd, which we believe will prove better even than she and for which we must make room. As to the matter of price, Vela is good for a number of years profitable work and her first calf by Sargent Fox will be well worth the purchase price. We have five heifers by this bull, and while they are not yet old enough to be in milk, they are of uniformly beautiful type with remarkable udder development and rangy, milky look; we feel safe in saying that if exhibited in the East they would create a sensation, and predict that when they come in milk they will demonstrate the value of Sargent Fox as a dairy sire.

We have had to buy, test, and discard a good many cows to secure such performers as Vela Hastings and any one who wishes to get a safe start in the Jersey business cannot afford to let this opportunity go by. In addition to her performance, Vela Hastings' blood lines are very valuable for a foundation, her sire being Paron, son of Diploma, the greatest of Combination bulls, and her dam a tested daughter of Southern Prince, one of the greatest Coomassie bulls. Surely if Southern California breeders appreciate a grand individual with good blood lines and splendid proven performance, Vela Hastings will not remain long for sale."—C. W. Leffingwell, Jr., Whittier.

ARE THEY SEVEN PER CENT MILKERS?

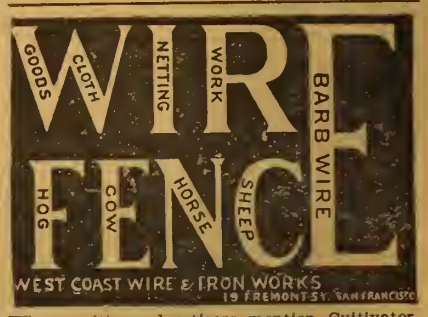
There were some rich milking Jerseys in the butter test on the Island in May, 1904. The gold medal winner made a pound of butter from 11.34 lbs. of milk, her yield being 3 lbs., 2¾ oz. butter for the day. The fourth prize cow made a pound of butter from 11.34 lbs. milk, her yield being 2 lbs. 12¼ oz. butter. The fifteenth prize cow made a pound of butter from 11.24 lbs. milk, her yield being 2 lbs. 1¼ oz. butter. Another cow made a pound of butter from 12.27 lbs. milk, and seven others required between 13 and 14 lbs. of milk to a pound of butter. The gold medal cow had calved four months prior to the test, and gave 36 lbs. of milk. Those who do not believe there are Jersey cows which will test over 7 per cent fat when flush will be entertained by figuring this out.—Jersey Bulletin.

GRUBS IN CATTLE.

Replying to a query as to eradication of grubs or warbles in cattle, a correspondent in the Dakota Farmer gives the following, which is simple and easy to test: Fill a sewing machine oil can with turpentine and insert it in the opening and inject a little of the turpentine, and we find we never have to use it twice in the same place. It acts like a charm. The grub shrivels up and comes out without any help. I think this a much better way than using a hot knitting needle or squeezing them out, as the cattle do no notice it at all.

POULTRY BREEDERS' MEETING.

The Poultry Breeders' Society of Southern California will be held at Liberty Hall, 107½ North Main st., Los Angeles, Tuesday evening, July 25th. C. P. Glogger will talk on "Modern Poultry Culture;" S. M. Butler will read a paper on "What Fancy has done for the Utility Man," and a short talk will be made by D. C. Johnson, of Whittier. Incidentally, we suppose there will also be some talk about the coming show and such other matters as may interest poultrymen.



When writing advertisers mention Cultivator.

Dr. Paxton's Cough and Throat Remedy

FOR HORSES AND CATTLE

This preparation is given for all diseases of the throat, such as Cough, Colds, Catarrh, Influenza, Distemper, Laryngitis, Pharyngitis, Pink Eye and Shipping Fever. In all these diseases this remedy removes and prevents inflammation and ulceration of the membranes, relieving laborious breathing and irritation, preventing pneumonia and death. $1 A CAN, $9 PER DOZEN CANS. Ask your druggist for Paxton's Cough and Throat Remedies, or, if your druggist does not handle them, write

Laboratory at La Porte, Ind.

Paxton Veterinary Medicine Company, Lock Box 95, Sta. C., Los Angeles, Cal.

When writing advertisers mention Cultivator.

DOKE STOCK FOOD COMPANY

MANUFACTURERS OF

DOKE'S STOCK AND EGG FOODS

2810 CENTRAL AVE. - LOS ANGELES

Finest Food on the market for Stock | Best Egg Producer and Keeps Poultry Healthy | Greatest Invigorator known for Thin Horses

ASK YOUR LOCAL DEALER FOR IT

When writing advertisers mention Cultivator.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. W. C. MARBLE, Secretary. J. E. FISHBURN

STERLING MILK COMPANY

INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS

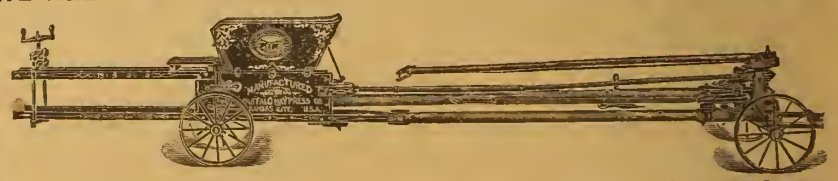
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA



THE BUFFALO

Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.

We manufacture BUCK RAKES, Stackers, Gang Plows, etc. Write or see us before buying.

We Have a Good Assortment of Second-Hand Presses on Hand Now

L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

TIME IS THE TEST

of durable construction in a high-speed machine like the cream separator. No other machine a farmer uses has a harder test. Run twice every day, winter and summer, it must not only do thorough work, but to be permanently profitable, it must be durable.

U. S. Cream Separators

Which hold World's Record for Close Skimming,

are built for long service. A solid, low frame encloses entirely all the operating parts, protecting them from dirt and danger of injury. The parts are few, simple and easy to get at, every one being subjected to most thorough inspection, both of material and workmanship. Ball bearings at high speed points, combined with automatic oiling, reduce wear as well as insure the easiest operation. Every machine is tested before shipment. Such careful and thorough construction is what enables the U. S. to better

STAND THE TEST

than any other separator. You don't have to buy a new one every year or two. And remember: the U. S. does the closest skimming all the time.

Read a few of the thousands of letters from people who have used the U. S. 5, 8, 10, 12 or more years. They know about the "test of time." Send for Catalog No. 550. It's free and it's interesting, and will point the way for you to save money as well as to make money in your dairy

VERMONT FARM MACHINE CO., BELLOWS FALLS VT.

411 PROMPT DELIVERIES 18 DISTRIBUTING WAREHOUSES IN U. S. AND CANADA

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

MOULTING.

"See the feathers in my yards," said a friend to me, " and they were all cleaned out yesterday!" "Good for you!" was my reply. "You will have an early moult and plenty of eggs in the fall!"

Now, my advice, given as a result of my own experience is, examine your hens carefully, discover those whose feathers, like ripened fruit, are ready to fall, put those together in one yard and feed them the food that will loosen their feathers and make the new ones grow. Of course you can feed your whole flock in this way, but the results will not be so satisfactory, because the feeding for feathers will not have the same effect on all of them. Last year I gave at this season the account of the experiments on the moult at some of the government experimental stations. There it was found that by making the fowls fast for two weeks, and then feeding very liberally that it hastened the moult; this is usually called "forcing the moult."

I believe in assisting nature; do not believe in forcing nature; there is a difference in this, and for several years I experimented on these lines. We all know that when a hen has been sitting on eggs, she does not eat much, and grows poor, some hens more so than others. After the chickens are hatched, some hens continue thin and poor, calling the chicks up to feed and neglecting their own meals, some eat heartily, as soon as the chicks are satisfied, and these last in about two, or perhaps three weeks, commence to moult and go through either a partial moult or a full moult, according to the season. On these grounds the experiment station and some private individuals, decided that the way to force the moult was to copy nature; starve the hens for a period of two or three weeks as if they were sitting, giving them only one meal a day, and that a light one. This was the plan and it was found to work well in most cases. I tried it for three years in succession—my hens were great layers, bred to lay, and were well and liberally fed. It was July, some of the hens had been sitting on duck eggs, guinea eggs, peacock and turkey eggs, four weeks. I considered that this length of time was sufficient starvation. Some of them seemed poor in flesh, others were still heavy. The chicks and ducklings went to the brooder, and the hens by themselves into a large yard with shady trees, a good scratching pen and clean, comfortable roosting house. Here I began to feed them a little more liberally each day, giving them grain in the scratching pen, equal parts of wheat, Kaffir corn, rolled barley, and rolled breakfast oats, one handful for each hen in the morning thrown into the hay. At noon all the green clover they could eat and an ounce of green bone cut fine. At night a mash of two parts bran, two parts corn meal, one part breakfast oats, half a part meat meal, and one third of the whole green cut clover. To this I added a cup full (about ten per cent) of linseed meal, a cup of charcoal and a tablespoonful of salt and pepper. I had some sunflowers and threw the heads full of seed into the yard for the birds to peck out the seeds, and I occasionally substituted cottonseed meal for the linseed. In a week or ten days about half of the hens were shedding their feathers freely and began to look very rough, the others began to lay and showed no symptoms of moulting. Those that shed their feathers quickly, got their new feathers also rapidly, and in about a month were clad again, whilst those that were laying shed their feathers slowly and when the new feathers commenced to grow they quit laying and all rested for about three weeks. All began to lay early in the fall.

By this I learned that some of my bred-to-lay hens would lay even whilst moulting; also that when the feathers are sprouting very few hens will or can lay because the surplus food (beyond that which supplies nourishment for the body) goes to making feathers instead of eggs. It is very rare that a moulting hen will grow fat, but by feeding the old hens plenty of fattening food, the old feathers will ripen quickly, fall off, and the new feathers will be stimulated to grow rapidly and when fully grown the energy developed by this feeding will be turned into eggs.

I feel sure that by "judicious" feeding we can greatly assist the moult. I would like to advocate two weeks of "judicious" fasting, but last year about moulting time I gave a synopsis of the experiments in one of the government experiment stations advocating the starving system and, not long after, I received a letter from a friend reproaching me for my cruelty, telling me that her neighbors were not feeding anything at all to their fowls, in consequence of my article, and she was so broken hearted over the dumb brutes suffering that she was feeding them herself. A poultry breeder, an old one, met me and said, "So and so, who is always very economical in his feeding, and keeps his fowls just alive, but they don't lay, is now starving them because he says you advocate it;" he laughed, and added, "the poor hens, if they survive, will never recover or amount to anything." The old breeder is a very successful man and a very generous feeder. He afterwards went to see these poor hens and he told me, confidentially, that he did not think an expert could bring those hens out fit to show, adding "I would not take them as a gift."

So this year I feel afraid of advising any one to starve their hens, and will only say feed all the green feed, vegetables, clover, alfalfa, fruit, that you can get them to eat, and cut off all the corn, cracked corn, Kaffir corn, or Egyptian corn, and give a half feed, or even less, of dry bran, alternating with whole oats soaked in hot water for an hour of an evening. Keep this up till the middle of August and then begin a liberal feeding of the more fattening foods.

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

When writing advertisers mention Cultivator.

FLYO-CURO

Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL

The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS

—AND—

BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street

San Francisco Office and Salesroom, 33 Market St.

When writing advertisers mention Cultivator.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food

ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

I want it clearly understood, however, that this starving on green food, is only for the yearling or two year old hens that you are keeping over for layers or breeders for next year. Do not starve the pullets; give them from the time they come out of the shell till they begin to shell out eggs of their own a generous amount of feed.

After the hens that have moulted commence to lay you will have, with American breeds, to again alter the feeding, if you do not they will either get too fat or will moult over again. Feed less corn in any shape, that is either cracked or as feed meal. Let the largest part of the feed be wheat or its byproducts, or oats, then barley and only a smaller amount of corn.

* * *

EDITOR'S QUESTION BOX.

Little Turkeys.—(C. R. C.) Thank you for kindly offering to give me any help I need with my poultry. At present my only trouble with my turkeys is that they seem to get chilled and get lung trouble. I have lost six in that manner so far. Once they start to droop their wings they never seem to live long. I have tried dosing them with quinine (½ gr. at a time) and liquizone (a lung remedy) but it was of no avail, in some cases they started with bowel trouble. I cured them of that, with soda and water, and castor oil, but they died soon after. I keep them well dusted with lice powder.

Answer.—When little turkeys or chickens droop their wings, it is a sign of lung trouble; they have taken cold. Prevention is better than cure. You must find out why and how they are taking cold. A perfectly tight box is not good for turkeys; they must not sleep in a draught, but they must have plenty of air. I put mine in a box or coop with one side completely out; they are sheltered from the night breeze and have a good roof over them and tight sides to the coop, but the front is open. Perhaps your mother hen has deserted them and they take cold at night. The best way to prevent that is by keeping her (if a chicken hen) shut in the coop and out of sight of the other hens. Liquizone would not be good for them. The best thing for little turkeys is finely chopped onions to prevent and cure a cold. Rice boiled in milk, with a tablespoon of cinnamon added to each pint of milk is also a very good cure, especially when the bowels are affected. But prevention is the best cure of all, and regularity in feeding. One day's forgetfulness, or one day's neglect in letting them get out among your Indian Runners and eating their food, is enough to start the trouble and when once started it is very difficult to eradicate any disease amongst little turkeys. It is easy to forget! You see I am a grandmother and know by experience how hard it is for boys to remember—but perhaps you are not one of the forgetful boys.

* * *

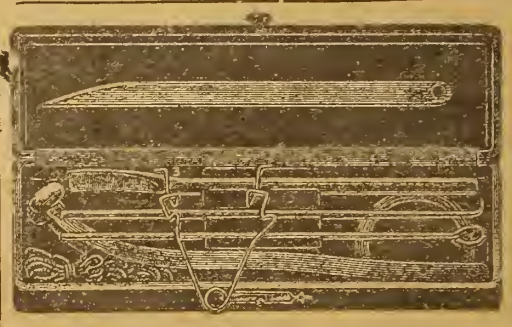
Turkeys.—(E. D. C.) I take such pleasure in reading your articles on turkeys that I must write and ask your advice as I think you are the best authority on raising turkeys I know. I followed your directions last year and was quite successful. This year I thought I would raise them on a larger scale but have almost failed. I have eight hen turkeys and one gobbler. They laid one hundred and sixty eggs and out of that number thirteen only hatched and I have six that will pull through all right I think. I got another gobbler and the second lot of eggs hatched fine. What do you think about keeping the turkeys confined to yards ninety by twenty-five feet during the laying season and a few weeks after hatching, then turning them out on a range of eight hundred acres? I did this on account of so many varments destroying the eggs and hens too. The yards are fenced with wire netting, have running water in each, alfalfa, clover and grass. I kept plenty of lime, charcoal, grit and ashes and some green feed such as cabbage, lettuce and onion tops. During the winter months they ate quantities of ripe apples, as I had them turned in a large orchard and they ate apples greedily and the young turkeys were as fat as could be. What do you think about apples keeping hens from laying? In one of your articles you spoke of introducing wild blood into the stock to increase both size and hardiness. Where did you get wild stock when you raised turkeys?

Answer.—In answer to your question about yarding turkeys, I would certainly do so in the laying season, especially as you seem to have ideal yards. The apple orchard would be an ideal place for little turkeys. Apples are a very healthful food for both man and beast, and cannot hurt either chickens or turkeys. If you want to introduce some wild blood into your flock, you had better get a good young

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

Standard Bred S. C. White Leghorns
EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.
CAPTAIN MITCHELL SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator
When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.
When writing advertisers mention Cultivator.



Caponizing Set
Double Your Profits by Caponizing
Complete with Instructions, $2.50, postpaid
STOCKMEN'S SUPPLY CO.
Fresno, Cal.
When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT — **Calfalfa Meal** — **ASK YOUR DEALER FOR IT**

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings or Oil Cake meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application.

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application.

MILLS
West and Nielsen Aves

California Stock Food Co.
FRESNO, CALIFORNIA

OFFICE
121 FORSYTH BLDG.

Tom from Mrs. C. D. Hubbard (see her adt. in this paper); she has grand stock. It will cost you less than sending back to Arkansas and you will be well treated by her. I got my wild blood in Oklahoma. Now I am raising only a few White Holland turkeys for my own use.

* * *

Moulting.—(Mrs. J. G. C.) Will you please print in the poultry departemnt directions for "forcing the moult."

Answer.—See article in this paper.

* * *

Worms.—(L. G.) Will you kindly tell me through the Cultivator the treatment for worms in chickens? A number of my hens have had the same symptoms and finally died. They would stop eating and what was in the crop remained there. The intestinal discharges are watery and whitish. In some of these I found worms two to three inches long, resembling somewhat the earthworm.

Answer.—I think the best remedy for worms that I have tried is turpentine; thirty drops in a quart of water, shutting the hens away from all other water. Or give the hen five drops of turpentine in one teaspoonful of castor oil. The usual remedy is five grains of Santonine in a teaspoon ful of castor oil, but the turpentine does best.

Or keep the hens twenty-four hours without food and then feed them stewed garlic. If you feed plenty of onions you will not have worms. You must thoroughly disinfect your yards. Spray with five per cent solution of carbolic acid, then scatter air-slaked lime and then dig or plow and plant a crop of wheat or barley. This is to destroy the eggs of the worms. They may have been brought by pigeons or some strange fowl, and you must get rid of the eggs or you will have more trouble.

VALUE OF POULTRY MANURE.

The request has often been made to the Cultivator to give some attention to the value of poultry manure to an orchard. For instance: One party wishes to know how much fertilizer value 1,000 hens would add to ten acres. This matter has been taken up with several experimental stations and those whom we thought qualified to answer it and we find there has been a dearth of investigation along that line. For instance: we have a letter from Mr. Frank T. Shutt, from the Central Experimental Farm, Ottawa, Canada, in which he says:

"Although we have planned for some time past a series of experiments that would give us more definite information than we have at present regarding the preservation of poultry manure, press of other work has so far prevented us from taking up the investigation. There are practically no data on this subject. We know that poultry manure decomposes readily, losing nitrogen, and for this reason we have advised the use of an absorbent litter in the hen house, preferably air-dried muck, moss or peat. Ashes or lime should never be used for this purpose. We have always supposed that when such a compost is not more than one-third hen manure there is not much loss, especially if the mass is kept compact. Our proposed experiments will include the preservation of poultry manure with dry and moist loam muck, gypsum, etc., making analyses at the beginning and end to determine such losses as may ensue."

In a former letter, Mr. Shutt also said, regarding the quality and value of manure:

"In the first place, we have to recognize the important fact that the quality as well as the quantity of the manure produced will be regulated by the quality and quantity of food consumed. Speaking of the matter of quality, of which we have data, I should say that a ton of manure from poultry fed on highly carbonaceous food would not be worth more than $2.50 to $3.00 per ton, but that manure from poultry fed on a nitrogenous and phosphatic diet, such as meal, green bone and various cereal grains, should be worth from $5 to $6 per ton. In these calculations the following values have been used: Nitrogen, 15c per lb., phosphoric acid, 7c per lb., and potash, 4½c per lb.

"One authority estimates the monetary value of the manure per fowl per annum from 10c to 14c. Assuming a basis of 12c to be approximately correct, we find the fertilizing value added to the orange grove by the 1000 hens would be $120 per annum."

KEROSENE EMULSION FOR LICE.

We have several requests for reprint of the kerosene emulsion given by Mrs. Basley in last April and reprint for the benefit of those inquirers, as follows:

Dissolve one pound of hard soap, or half a pound of whale oil soap, or a heaping pint of soap powder, in a gallon of boiling water, remove from the fire and add whilst still boiling hot one gallon of kerosene. Churn or agitate briskly for fifteen or twenty minutes, or until the mixture becomes thick and creamy. Then add about ten gallons of water, cold or warm, and stir thoroughly. It should be sprayed and driven well into the cracks. I always add one pint of crude carbolic acid when I put in the kerosene.

The co-operative spirit has scarcely touched the farmer body in this country, when comparison is made with progress in Europe. In parts of the continent where co-operative societies among farmers are well organized, each particular association works along independent lines, yet the farmer is often a member of many different organizations, depending upon the particular kind of agriculture in which he is interested. An authority says it is no unusual occurrence for a Danish farmer to belong to ten local co-operative societies.

Some one has well said that there is so much bad in the best of us, and so much good in the worst of us, that it behooves each of us to be charitable with the rest of us.

We are ruined, not by what we really want, but by what we think we do; therefore never go abroad in search of your wants. If they be real wants, they will come home in search of you; for he that buys what he does not want will soon want what he cannot buy.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

.. Summer Hatching ..
Pays us—it may interest you if you if you are not overstocked. An August hatched cockerel from these yards sold for $15 this spring. Eggs after July 1, $1 for 15, $5 per 100, including the eggs from our prize winning birds.
Lake Avenue Poultry Yards, Pasadena, Cal.
When writing advertisers mention Cultivator.

JACOB KREGER
Breeder of
White Leghorns
Eggs in Season
ANAHEIM, CAL.
When writing advertisers mention Cultivator.

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.
When writing advertisers mention Cultivator.

Pure Bred Black Minorca Hens For Sale
Also some young birds of same breed. Inquire of D. M. HATHORN, COMPTON, CAL.
When writing advertisers mention Cultivator.

BLUE ANDALUSIANS Eggs, $1.50 for 15
MRS. J. S. DUFF, 3145 S. Hoover St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

A SNAP—CHICKENS
Flock of Thoroughbred S. C. W. Leghorn Hens. Chance for choice stock at lowest prices. Call or write,
E. A BOST, 514 W. Crow Ave., Pomona, Cal.
When writing advertisers mention Cultivator.

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States
When writing advertisers mention Cultivator.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
—Circular Free—
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

The Big Incubator a Success
The Mammoth Incubator at Bamboo Ranch is bringing out a fine hatch this week. Eggs for the next hatch may be sent at once. Hatching for the trade is our specialty. **Four Good Incubators and Brooders for Sale.**
2000 Barred Rock chicks just hatched will also be disposed of
BAMBOO POULTRY RANCH
Home Phone Glendale 701 on Los Angeles Exchange
AIKEN & COE, Proprietors
GLENDALE, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at 1903 Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 **Los Angeles, Cal.**
RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile
When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

THE SILO.

(Continued from First Page.)

put in, after eight years of service, and much of the time this small silo has been filled twice a year. When the tar is properly cut with the gasoline it spreads evenly and dries quickly, and in two or three hours all odor is gone. The silo can be tarred one afternoon and filling begin next morning, without fear of having the silage taste or smell of tar.

Another reason for tarring is that the ensilage does not adhere to the sides. When the tarring has been poorly done, the ensilage sticks so closely that it is necessary to use a stiff broom or a hoe to loosen the lumps that have moulded fast to the unprotected boards. These masses weigh from one to ten pounds and are often three inches thick. If they are left clinging to the sides when the silo is filled, there will start from them a white rot that will destroy several pounds of ensilage.

The tarring of the silo is a little thing of itself, but it does not seem right to wear out things that have cost money and that means human toil.

In prosperous farming communities we often see the fixed improvements, buildings, tank-house and fences, being destroyed by carelessness. The fault of not buying new tools when needed is equally as bad, and it never pays to use mowers or wagons until they drop to pieces and are fit only for the junk heap. Sell them for what they will bring and buy new ones, and keep them in good order so the men can do a full day's work without spending the time in the discouraging labor of trying with unskilled fingers to repair breaks by tying up with baling wire.

Nearly every one coming to see our silos are ignorant of the qualities of ensilage and think it a fermented or partly decayed food, when really it is simply a canning process carried out on a large scale. The corn heats and drives out the oxygen, converting the starch into sugar, and the heavy carbonic acid gas settles down to help exclude the air. If the sides are absolutely air tight and the ensilage has been well tramped down, the temperature rises rapidly. When it reaches 150 degrees, the ferment or bacteria producing it are destroyed; and the further breaking down of the starchy matter into lactic or acetic acid is arrested. As it cools, the coating of mould appears on the surface and seals it air-tight. This makes bright, sweet silage, loved by the cows, filling the milk pail and rolling out the butter fat, bringing into the farm home many comforts, and into the lives of the children the advantages of education.

In California, complants come to us of silage failing to keep; of its being very sour; of its tainting the milk. If it fails to keep, the building is probably defective. If it is too sour, the material or food stuff was not sufficiently matured when placed in the silo and could not help developing into vinegar, just as grape juice when it has sufficient saccharine matter makes wine; but if reduced to 12 per cent of sugar and not checked by addition of alcohol, it makes vinegar.

The next common cause of failure in California is putting up the ensilage too dry. If too dry, small masses of mould will appear in places all through it. This mould does not seem to be injurious to the cattle, though it imparts a slight bitterness to the taste that they do not seem to appreciate.

If the silo has been filled too fast, the resultant heat often makes it too dry. To distribute the moisture evenly, we have a three-quarter inch faucet over the end of the carrier, and keep a small stream of water flowing constantly on the cut food as it is carried up into the silo. We never fear it becoming too wet; as the silos are on the earth without cement floors, the absorption is perfect. The moisture shows on the ground two or three feet from the silo a couple of weeks after the filling is completed.

Now about filling the silos too fast. This was our costliest mistake, for we were told by the eastern authorities, to fill at once. Our feed stuffs are drier, when brought in, than in the East, and the dry heat at Fresno is also intense; so the outside of the silo is heated to over 100 degrees where the sun strikes it directly, and the ensilage warms up with internal heat, and will scorch and turn dark. We say "scorch" for want of a better term, for there is quite a suggestion in the darkened sticky mass, of burnt molasses candy. The cows will eat this readily enough, but they do not toss their tails in the air and race to the mangers as they often do when the silage is sweet.

By filling one of the pits of the silos half full and then filling on the other pit until the former has cooled down to a temperature not too hot to hold the hand in about a foot below the surface, all danger of over heating is avoided. The pit is then filled to the top and well tramped.

It is particularly important not to over-heat alfalfa ensilage, which requires longer to cool down and more tramping to make it keep sweet, than is needed with corn. Peas and oats require the same careful handling. Corn ensilage is so easy to make perfect that it would seem only the greatest carelessness could make it spoil.

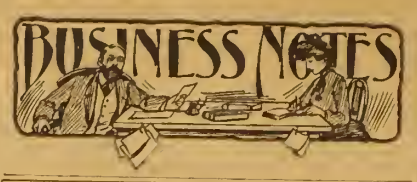
The settling of the ensilage after filling shows whether it has been well put in. Ten feet of alfalfa should not settle more than two and one-half feet; oats not more than 3 feet; barley and wheat, 3½ to 4 feet; corn about 2 feet. If the first filling settles more than this, the men tramping should be watched and made to tramp the sides more thoroughly. If the men are told the above figures before they start to tramp, they will do better work. I am more than ever convinced that we gain intelligent co-operation by letting the men understand what we are doing and why. It is more peaceful for them to discuss ranch facts at their table than to have the tea-cups and plates fly through the air during the heated disputes over religion and politics.

Ensilage like alfalfa taints the milk from the outside of the cow, not through her body. It is, therefore, better to feed it in the manger outside her milking barn. After the cows have finished all they care to eat, remove the remainder to the calf lot.

A PRACTICAL POULTRY PLANT.

A practical book for poultry people. Price $1.25 postpaid. Address this office.

Professor: "Now, Sprockets, give me some account of Atlas. Sprockets: "He was a mythological god with a bicycle stoop and the originator of the ball bearing."—Puck.



A NEW VETERINARY REMEDY.

A remedy which is known to Southern California but little, but which has been a strong favorite in many sections of the East for years, is announced in this week's Cultivator, and from testimonials which we have seen, we do not doubt is worthy of a trial by horse owners in California. It is a cough and throat medicine manufactured by the Paxton Veterinary Medicine Co., of La Porte, Indiana, but which Mr. C. C. Paxton is now in California introducing. That company manufactures not only the above mentioned remedy, but others, such as colic and indigestion cure, purgative pills, healing powders and other remedies so compounded and put up as to be exceedingly easy of administration, and with it all, an economical and everyday remedy.

By writing Mr. Paxton, at Sta. C, Los Angeles, further information may be had regarding these remedies.

MEALFALFA.

The Stockton Mealfalfa Co. are manufacturing a product made from selected alfalfa hay, prepared and ground to a meal by a special process. It is green protein food and when moistened becomes green alfalfa. The process retains all the original properties of alfalfa and makes a food very rich in protein. Best results are obtained by mixing with other grain. It is claimed to be a very superior food for poultry, hogs, horses and cattle, being nutritious and palatable, and in bulk will go twice as far as alfalfa hay. It is manufactured by the Stockton Mealfalfa Co., of Stockton, Cal., and sold generally throughout the State by dealers. A letter to the company will secure full information, circulars, sample package, and where kept in stock.

See their advertisement in this paper and mention the Cultivator in your letter to them.

STOCK APPLIANCES.

The Cultivator has often spoken of the advantage to be had from the use of sterilized air treatment for milk fever and of the further fact that while the bicycle pump treatment may accomplish good results, a more improved apparatus would probably soon be on the market which would soon make this treatment comparatively simple in the hands of any careful person. We are glad to call attention to the announcement of the Stockmen's Supply Co. at Fresno, to an appliance for treating this disease. It is said to be easy to manipulate, requires but little time, and can be used on the shortest notice. This establishment not only carries the article mentioned but general supply of stockmen's appliances and remedies.

ARID CLIMATE FIELD ROSES.

The Cultivator is in receipt of an exquisite illustrated booklet, published by the Chase Rose Co., at Riverside, and containing a large number of beautiful half tones of roses produced by the company, and a complete list with prices of the various varieties. A strong point is made on the title page in the statement, "Arid climate field-roses grow," which is probably at the foundation, at least coupled with good business management and honest goods, of the immense business which this concern has built up. As the firm caters to wholesale trade, we are not certain that this book is sent to all comers, but, if it is, it would certainly be a prize worth sending for.

A VALUABLE FOOD.

Good for horses, good for dairy animals, good for hogs, and, especially good for poultry. This is the verdict of many users of the Calfalfa meal manufactured by the California Stock Food Co., at Fresno. At this season of the year, when green food is scarce for use in the poultry yard, such food as this will be most desirable for the poultry raiser for it gives fully the advantage of the green food with comparatively slight cost. The food is alfalfa, ground to a fine powder and in such a manner that all of the food elements are available for the animal's use. It may be fed either in the mash given to poultry or to stock, or, mixed with water and kept constantly before the poultry it has proved very satisfactory. Almost every dealer in poultry or stock supplies carries this valuable food in large quantities so that it can be had in practically every section of the State.

A GOOD HATCH.

Aiken & Coe report that the monster 5,700 egg incubator brought off a magnificent hatch during the past week. The work of refilling will be commenced at once.

Mrs. Aiken says that a finer lot of healthy little chicks was never seen. The continuous and uniform heat proves most advantageous and the stronger chicks will be a strong drawing card for the big incubator.

Hay, Grain, Potatoes

Car Lots

HOWARD BROKERAGE CO. FARM ORCHARD & VINEYARD PRODUCTS 170 CENTRAL AVE HOME 1360 MAIN 1545 LOS ANGELES, CAL.

Will Buy or Handle on Commission Direct Connection with Largest Consumers in Southern California

When writing advertisers mention Cultivator.

Half Rates

EAST

SALT LAKE ROUTE

One Fare Round Trip to New York, Chicago, St. Louis, Memphis, Kansas City, Omaha and all Eastern Points.

CHOICE OF ROUTES RETURNING

PORTLAND EXPOSITION—

$60.00 Round Trip, limit 90 days. Going via Salt Lake City and the famous Columbia River, returning via Shasta Route and San Francisco. Stopovers allowed.

$40.00 Round Trip, limit 21 days. Going and returning via Salt Lake City and Columbia River.

Personally Conducted Tours to Yellowstone Park, Portland Exposition and Alaska. Information gladly given at City Ticket Office, 250 South Spring Street, Los Angeles. Both Phones 352, First Street Station, Home 490, Main 4095.

When writing advertisers mention Cultivator.

Queries and Suggestions

BEES UNDER LIVE OAKS.

Editor Cultivator: Will you be kind enough to answer in the next Cultivator if it is a good idea to have your apiary under oak trees? Do bees gather much or any honey from oak trees? They seem to be constantly at work on and about the leaves. Are the large red ants, if not in too large numbers, considered a pest to the beekeeper?—Subscriber, Watsonville.

As a rule, it is not a good idea to have the apiary under oak or any other trees where the shade is very dense, one reason being that, owing to the shade and coolness, the working day of the bee is much shortened. To get the earliest work out of the bees in the morning, they should be out where the warmth of the morning sun strikes the hive as early as possible. We do not think the apiary would suffer any other inconvenience from being under the oak trees. It is possible that the bees gather some honey from the honey dew which is caused by aphis or other insects which inhabit the trees, but, other than that, no benefit will be found from the oak trees.

Large red ants, in small or large quantities, or any other ants, are certainly no benefit to the beekeeper. Every effort should be made to keep them absolutely from the hives. Notwithstanding this, which is usually the testimony of California beekeepers, A B C of Bee Culture says that in the North there is no injury from ants.

If you wish to kill them off, find the ant hill, drive a bar ten or twelve inches deep about the center of the hole and pour in five or ten cents worth of bisulphide of carbon. Cover the hole quickly with moist dirt and the ants will all be desetroyed.

"SCALY BARK"—GUM DISEASE.

Editor Cultivator: Can you tell me whether there is any cure for "scaly bark" on orange trees? Is is similar to gum disease?—H., Santa Ana.

We have never heard of the term "scaly bark," applied to gummosis, foot rot, mal-di-goma, or, more common, gum disease, but we presume that gum disease is referred to. It is an exasperating trouble and occurs in nearly all citrus sections of the world. There are some varied manifestations of these several diseases, but, as a rule, the same general condition prevails of decay and scaling off of the bark and a general unhealthy condition.

Be careful about letting too much dampness about the tree. Give thorough culture, allowing air to penetrate the soil. Admit air and light to the center of the tree, as much as possible. Scrape and clean off the diseased parts, scraping down to healthy wood. Disinfect by washing over with Bordeaux mixture or solution of equal parts of carbolic acid and water. After this, coat with grafting wax or any substance which will exclude air and give chance for healing.

SHYNESS OF BEARING.

Editor Cultivator: My tomatoes are troubled with some disease, or at least, I find that after blossoming the stem, half an inch or more back from the blossom, loosens from the vines and falls off. At the same time the vines are very strong, healthy growing and no appearance of disease. Why do they not bear?—Subscriber.

The trouble, we imagine, comes not from any disease whatever, but from your own fault in giving the vines too much water and perhaps too good attention. Also, another factor which may have caused it is the coolness of the season up to this time. As the weather gets hotter and drier this may be, to a certain extent, corrected and this may be aided by yourself in withholding the water and thus inducing more fruit growth and less of the vine growth. Pinch back the tips of the strongest growing branches.

THE MATILIJA POPPY.

Editor Cultivator: Please advise me under what conditions I might expect the seeds of the Matilija poppy to germinate. Also, what time is best to move and divide large clumps. Can I do it now? What are prices of plants? —C. F. S., Pasadena.

Great difference of opinion prevails among our nurserymen regarding the germination of this seed. With some it has lain in the seed tray for eight months before starting. With others the appearance of seedlings is almost immediate. More complaint and reports of unsuccessful attempts at growth, come from our own State, than from the East or Europe. We are inclined to believe that if seeds are fresh, no trouble will be found in getting a good return in a reasonable time. No poppy seed will keep well and though germinating when old, if kept too wet or cold, decay will be induced and of course, no seedlings appear. This plant seems to transplant best during February or March, just before growth starts. The next best time is after the summer growth and bloom have matured, probably about September 1st. They should be cut back heavily when moved, and well watered. If they have been kept dry previously you will be successful. We would advise placing them on the market already established in one and five-gallon cans, rather than in naked clumps. Prices are determined by size and condition of plants. Apply to any of our nurserymen.

SUB-TROPICAL FRUITS.

What is the best time to set out the sub-tropical fruits mentioned in your issue of June 2d, and what are the proper conditions, care, etc.?—F. I. P., Upland.

As all of these plants are handled in pots or cans, they may be transplanted at any time except from October to February; at that time the soil would be too cold to start them into growth and decay might start, instead. Their treatment, soil requirements, hardiness, etc., varies and you would better find out from the dealer the needs of each, or if you will state just what plants you expect to plant, we will advise you. Any plants of this class, even oranges and lemons, will do better if given protection during the first winter or winters.

SORGHUM MILL.

Some tmie ago the Cultivator received a request for information as to the making of sorghum and best and cheapest mill to use. The best information on manufacturing of sorghum syrup may be secured by writing to the U. S. Department of Agriculture, Washington, D. C., for Farmers' Bulletin No. 90. However, the success with sorghum manfacture, or rather with the selling of the manufactured article in this State, has been very indifferent. It does not seem to command a ready sale in competition with the regular sugar factory syrup. However, a few months ago, a correspondent of this paper informed us that he had been in the sorghum business for twenty-five years and had succeeded well in manufacturing and disposing of his product. He said that from rich soil he could produce three hundred gallons of syrup per acre, and at the same time could dispose of all that he could make at forty-five cents per gallon.

GRAPE TROUBLE.

Editor Cultivator:—Enclosed you will find some grape leaves. Will you kindly say what you think is the matter with the vines and what can be done for them? I have a few acres of them situated near Arrowhead. The soil is loose sand and gravel, watered in the past from hot mineral springs. Last year a portion of the vineyard was affected the same way, leaves dropping and fruit drying up. That portion is not as bad but the other portions and younger vines are badly affected this year although the growth was vigorous. The vines are three and four years old.—J. C. F., San Bernardino.

The leaves have the appearance of leaves of some varieties of grape vines when affected with the Anaheim disease. The grapes drying up on the vines is another symptom of this disease, though the fact that vines affected last year are not so badly affected this year would ordinarily be considered proof that it was not the Anaheim disease though we have seen Seedless Sultana vines have every indication of Anaheim disease one year but show no sign of any kind of trouble the following years. If the grapes begin to dry up before the leaves fall, it would indicate that the disease affects both fruit and leaves (as the Anaheim disease does), otherwise, the vines might lose their leaves from drouth or insect attacks and when the grapes were exposed to the sun they would soon dry. From appearance of the leaves and from the description of the trouble we should say that it is a mild attack of the Anaheim disease. There is no known remedy for this.

SUMMER COVER CROP.

Editor Cultivator:—I want to plant some kind of pea between corn rows for green manure and pasture after the corn is off. The land is damp and the corn is about ten inches high now. The land has been in alfalfa and has some Bermuda grass which I want to kill and if I can get a heavy mat of green stuff over the land I thought it might help.—C. W. K., El Monte.

The common vetch will make a heavy growth and produce good feed. The cow pea will do the same if sown this time of year. It will outgrow the vetch and make excellent hog feed when the beans are in the dough. The vetch has the advantage over the cow pea in that it will make good late green feed even through the winter. The cow pea will mature and dry up before fall.

BOOK WANTED.

Editor Cultivator: Can you inform me the publisher's name of "Young's Secrets?" This is a book that should be in every rancher's, mechnic's and poultryman's hands. The one I saw was an old volume from which the publisher's name was torn.

I would like the points of perfection in Rhode Island Reds. It is not given in the Standard with other breeds.—W. F. W., Redlands.

Regarding the first query, we have been to Los Angeles Public Library and to many of the largest bookstores and are unable to locate "Young's Secrets," though the book dealers have gone through, most thoroughly, complete catalogues of publications for many years. Any subscriber of the Cultivator who can give the desired information will confer a favor.

The new Standard will contain the scale of points of the Reds. This will be out in a short time. "The Poultry Book," published by Doubleday, Page & Co., three volumes, $12, can be supplied from this office and this contains not only a scale of points, but a complete history of the breed. The book may be had in all three volumes or the one volume containing history and standard of the Rhode Island Reds for $4.

We note the suggestion in a southern paper regarding treatment of spring crop of potatoes to ripen the seed for the fall planting. It is, after the potatoes are thoroughly ripened in the ground, to dig, cut the potatoes and, after drying over slightly, store in a long furrow, making a sort of winrow after which dirt is plowed over them. They are left thus covered until beginning to sprout, when it is easily determined which are thoroughly ripe and ready for planting by their being sprouted.

The Florida melon season closed about July 1st and is said to have been an exceedingly successful season, with large output. The output of the southern end of the State is about one thousand carloads.

In nearly all cases it is better to apply the manure thick than to attempt to make it go as far as possible by spreading it on in thin layers.

When putting down carpets, stretch them lenghtwise. Tack down the two ends first, i. e., across the ends of the breadths. After it is straight and stretched, the sides are easily tacked and do not require as many tacks as the ends.—Farmers' Tribune.

RANCHES WANTED
Want five improved and three unimproved Ranches in Southern California for cash. Price from $3,000 to $25,000. Perfect titles. Give full description and price. Will deal with owners only.
The Cash Land Co.
1140 James Flood Building - San Francisco. Cal
When writing advertisers mention Cultivator.

Lime Your Lands
LIME, $2 PER TON
MANURE, 45c PER TON
Time to buy. For particulars write
H. B. MATTHEWS, Riverside, Cal.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.
When writing advertisers mention Cultivator.

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.
When writing advertisers mention Cultivator.

HIS NEW BROTHER.

Say I've got a little brother,
Never teased to have him, nuther,
But he's here.
They just went ahead and bought him,
And last week the doctor brought him,
Wasn't that queer?

When I heard the news from Molly,
Why I thought at first 'twas jolly,
'Cause, you see
I s'posed I could go and get him
And then mamma course, would let him
Play with me.

But when I had once looked at him,
"Why," I says, "My sakes, is that him
Just that mite!
They said "Yes," and "Ain't he cunnin'?"
And I thought they must be funnin'—
He's a sight!

He's so small, it's just amazin',
He's so red;
And his nose is like a berry,
And he's bald as Uncle Jerry,
On his head.
Why, he isn't worth a dollar;
All he does is cry and holler
More and more;
Won't sit up, you can't arrange him—
I don't see why pa don't change him.
At the store.

Now we've got to dress and feed him,
And we really didn't need him
More'n a frog!
Why'd they buy a baby brother
When they know I'd good deal ruther
Have a dog?

—Joe Lincoln.

Mistress Ashe's Punch Bowl

(A Historic Incident of the American Revolution.)

Wild roses in North Carolina are red. In the earliest days there were fields of these roses, bright and glowing, to be seen from the doorstep of the hip-roofed house of the Ashes.

On a summer morning in 1781 Mistress Ashe stood on the threshold of her home and, sheltering her eyes with slim fingers, she gazed intently Newbern way. In the dusk of the great hall behind Mistress Ashe showed a crowd of dark frightened faces, the slaves had crowded to the mansion at the first report of the coming of the British foe. Except for these slaves Mistress Ashe and her sister were alone. The sister was that Mistress Wiley Jones, stories of whose charm of manner still bloom perennial in North Carolina history and song. Mistress Jones was now on a visit from her own home in Virginia.

The column of dust rapidly approached. The sound of marching feet might almost have been heard.

Mistress Ashe turned to one of her slaves: "Go quickly," she commanded. "Request my sister to come hither with all haste to tell me what cheer she offered this Tarleton, whom I fear brings now on us his host"—

The slave had scarce disappeared when Mistress Jones, just learning of the dreaded approach of the enemy, was hastening to her sister.

"Is it, indeed, Tarleton?" cried Mistress Jones. "Is it, indeed, that bragging colonel? I must tell you, sister, that this same Tarleton bears me a grude"——

"Heaven forbid!" exclaimed Mistress Ashe, for Tarleton's wrath was to be dreaded.

"When the English under Cornwallis marched from Wilmington to Virginia," pursued Mistress Jones excitedly, "while they tarried upon the Roanoke, a party of officers were quartered upon us. Among them was this Tarleton. On the night on which they were to leave us this braggart grew very bold in his talk of us 'of the rebellion,' as he called us. Roundly he abused our noble friend, Gen. George Washington; more rudely still our dear friend and the General's kinsman, Col. William Washington. He spoke of him as 'that illiterate fellow.'"

"What!" cried Mistress Ashe.

"True. And moreover," quoth Mistress Jones, "he said: 'I hear this much vaunted fellow—this Will Washington—can scarce write his own name."

"Ah," quoth Mistress Ashe, indignantly.

"Then, ere pausing for prudent thonght, I cried: "But, Colonel Tarleton, you ought to know better than that, for you bear on your person proof that he well knows how to make his mark!"

"My sister!" cried Mistress Ashe, "dared you so allude to that saber stroke in the hand which the gallant Washington did give this Tarleton at Cowpens!"

"I had cause to regret the swiftness of my tongue," declared Mistress Jones, "for he straightway put his mark of devastation on the sundry parts of my property."

"Stay!" cried Mistress Ashe, with a startled gesture of remembrance. "Hast thou heard of the three-fold oath that this Tarleton has registered, repeating it till its braggart echoes resound from seaboard to untouched forest?"

"Tell me in all haste," urged Mistress Jones, "for they are now almost at earshot."

"He has sworn that he will plant the flag of old England on every housetop in our land—if not on turret, then, forsooth, on the ashes of every dwelling. He hath sworn that he will carry our noble leaders, the Washingtons, in chains to England. He hath sworn that he will quaff a stirrup cup, a luck drink to these horrid accomplishments, from the Ashe punch bowl!"

"Heaven defend us!" ejaculated Mistress Jones.

On the instant the two beautiful sisters presented an undaunted front to the foes.

General Leslie was in command, and right glad were the sisters that the hot-headed Tarleton was accompanied by a superior officer. Right graciously did General Lelie request what he might have demanded from the defenseless women, food and drink for his men and his officers.

The shining mahogany was soon set out with ample store. The Saracen's head peering from the heraldic device on every glittering piece of silver

James R. Townsend Francis M. Townsend
TOWNSEND BROS.
Solicitors of American and Foreign PATENTS
Copyrights, Trademarks and Labels Registered
Rooms 430-31-32-33 Bradbury Block Los Angeles Cal
When writing advertisers mention Cultivator.

THE STAR OIL BURNER
ITS OWN GAS MAKER
(Pateutees N. L. Rigby and S. S. Sprague
This Burner is offered to the public upon its merits. It is not an experiment, but a practically tested and successful invention. It has no superior for safety, simplicity, economy and durability. It is made without bolts, screws or rivets. It makes a pure dydro-carbon gas from low grade distillate oils, and gives you a fire as bright as the stars. Free from soot and smoke.
STATE AND COUNTY RIGHTS FOR SALE
For terms on burners or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation
When writing advertisers mention Cultivator.

$72.50

To Chicago and back, with similarly low rates to other Eastern points.

Tickets on Sale:
May 27, 28, 29.
June 12, 13, 14, 15, 16, 17, 25, 26, 27, 28, 29, 30.
July 4, 5, 6, 24, 25, 26.

These tickets are good 90 days and are also honored on the famous
CALIFORNIA LIMITED

Ask the Santa Fe Agent

When writing advertisers mention Cultivator.

seemed to desire now to exchange its noble motto, "Non sibi sed alenis," to a ringing "A strong arm for us and a sword-point for others."

But the Saracen heads kept all to their inviolable silence. Mistress Ashe also held her lips through all Tarleton's braggart abuse of the forces of her countrymen, while her heart beat with anxiety lest he take this occasion to demand a brew in the Ashe punch bowl.

Minded of the thrust in the parrying of wits with Mistress Jones had dealt him on the Roanoke, he was fain now to repeat his bit of braggadocio, sure that Mistress Jones would now be at his mercy, fearing, as she surely would fear, to bring by any bit of her tongue's sharpness his anger upon her sister.

"Here, too, Mistress Jones," he cried loudly, "I find friends of those ungainly woodsmen, the Washingtons. Would I could see these wonders of the Western world, these"——

"Ah, Colonel Tarleton," rang out Mistress Ashe's clear tones, "had you but looked behind you at Cowpens, when you fled so unceremoniously, you could have had that pleasure."

On the instant Tarleton grasped his sword hilt. Bitterly did Mistress Ashe repent on the instant of the piece of repartee, since become a line in our history.

What would have been the instant result of Tarleton's wrath none could tell, for at that moment General Leslie, hitherto detained without, entered.

Quickly he inquired the cause of Mistress Ashe's agitation; quickly on learning the cause he rebuked the colonel: "Say what you please, Mistress Ashe. Colonel Tarleton knows better than to insult a lady in my presence."

The colonel, greatly chagrined at this rebuke in the face of his subalterns, laid a plan for speedy revenge.

He well knew that Mistress Ashe would be daring enough to refuse from himself a demand for a draught from the famous brew, to be tasted only at Ashe house, but he fancied that she could not now refuse a request from his general, since that courtly gentleman had so readily taken her part against himself.

With no hint of his oath, Tarleton led the talk to the noted Ashe punch bowl. He related for his general's hearing the many stories of that bowl, antique in England ere the Mayflower's keel had cut the ocean plying westward. He told how in America it had grown thrice precious to its owners, for that almost every American leader of the Revolution had sipped exhilarating draughts from its generous crystal depths. He told how about this very board there gathered around that bowl, when chance and change of war permitted, five officers of the Revolutionary army, all of one name and blood; Gen. John Ashe, his son, Capt. Samuel Ashe, Col. John Baptista Ashe, Samuel Ashe, later to be the first governor of North Carolina chosen by the people, and Cincinnatus Ashe, a captain of marines, and besides these five officers there was another, a private, being too young to hold a commission, but not too young to give his life to his country.

"Mistress Ashe," cried Leslie, "the soldier of any nation may feel honored to taste a draught from a brew that so many brave men have quaffed. Now since you have so amply entertained your foemen, can you not add to your hospitality, I pray you, a draught from the Ashe punch bowl?"

Triumph at the success of his ruse shone on the ruddy countenance of Tarleton.

Mistress Ashe ordered the brew to be brought. After the delay necessary to the concocting of so rich a beverage the bowl was borne into the dining hall.

The crimson sides of the bowl caught the summer sunshine and glowed with deeper rudescence. Fragrance of roses, spices, wines, filled the hall. On top of the softly surging, wine-rich waves floated a million rose petals—wild rose peals—shredded from golden centers.

Mistress Jones, intrepid woman that she was, trembled where she stood. She felt that if Tarleton must now quaff a luck drink to his declared designs from that bowl, destruction awaited her countrymen and its leaders.

Mistress Ashe rose from her seat at the head of the table. General Leslie and his officers rose with her.

"General Leslie," spoke Mistress Ashe, "this bowl is the most precious possession of my husband's people. Generation after generation have sipped the nectar of this brew therefrom. The men who have tasted of this fragrancy have ever been of the brave the bravest, yet they were gentle as women to the weak and the defenseless. To such a one, General Leslie, be he friend or foe, I will offer a draught from this bowl."

Whereupon she poured a glass for General Leslie. While the General held his glass uplifted, waiting the filling of all the glasses, Mistress Ashe turned to address Tarleton.

"Colonel Tarleton," she said, "I have heard of your triply strung oath. I have heard that you have sworn to plant the flag of England on the roof of every American home, or, failing that, on its ashes. I have heard that you have sworn to carry our leaders in chains to the foot of the throne."

The Colonel's face glowed with fierce anger.

"And I have heard," pursued Mistress Ashe, "that you vowed to take your stirrup cup ere you ride forth on the accomplishment of these intents, from the Ashe punch bowl"——

There was a moment's tense silence, when Mistress Ashe spoke again:

"Heaven grant that our leaders in war may become our rulers in peace!" Mistress Ashe put her slender hands about the bowl and lifted it high above her head.

"Colonel Tarleton!" she cried dauntlessly, "as now snaps one cord of your triply strung oath, so may all arrows shiver from the slacked bow of the braggart! For never, Colonel Tarleton, from the Ashe punch bowl shall cup be offered to the cruel foeman of our people!"

So saying she let slip the precious burden from her uplifted hands.

Drenched with the ruddy dew, her hair crowned with the rose wreath that had fallen from the bowl as she cast it from her, ith red rose petals fluttering from erect shoulders to high arched feet, she made a picture beautiful, dauntless.

General Leslie dropped his glass untouched on the crimson wreck that had splashed its brilliancy over the waxed floor of the hall.

Outside in the brilliant sun of July a million rosebuds grew for fresh blooming, but never more would any of their kind crown rich libations in the once priceless, now shattered, punch bowl of the Ashes of North Carolina.—Springfield Republican.

Cookery Recipes

RECIPES.

Fish Croquettes.—To one cup of cold, cooked, flaked fish, add half a cup thick, white sauce. Season with salt and pepper and stir over the fire until boiling. When done spread on a platter to cool and divide into as many portions as are needed. Shape, roll in bread crumbs and fry in smoking fat a nice brown. Serve with lemon slices.

Welsh Rarebit.—Melt one tablespoon of butter, add a teaspoon of cornstarch and stir until well mixed. Then add half a cup of thin cream and cook two minutes. Cut in fine pieces half a pound of mild cheese and add to it the mixture with a teaspoon each of salt, mustard and a few grains of cayenne. Stir until soft and creamy. Serve on toast.

* * *

Potatoes au Gratin.—Slice four cold boiled potatoes. Melt two tablespoons of butter in a frying pan, add two tablespoons of flour and stir until smooth. Then add one cup of thin cream and one cup of stock. When boiling remove from the fire and add the yolks of two eggs and three tablespoons of grated cheese, salt and cayenne to season. Put a layer of sauce in a baking dish, then a layer of sliced potatoes, then more sauce, and continue until the dish is full. Spread over the top butter bread crumbs and brown in a hot oven.

* * *

Delicious Baked Fish.—The following receipt is applicable either to cod or haddock. Select a fish weighing three pounds and remove the skin and central bone. Break two eggs into a bowl and beat well with one pint of milk. Then add three snowflake crackers broken into tiny pieces; also one teaspoon of sugar, one-quarter teaspoon of salt, a dash of pepper and a grating of nutmeg. Butter a baking pan, lay in one piece of the fish, sprinkle with salt and pepper and pour half of the cracker and egg mixture over the fish. Cover with the second piece of fish, season and add the remaining sauce. Cook in a slow oven, and as custard forms in the pan lift it carefully from the sides of the dish and place on top of the fish. Repeat the process every ten minutes. When the fish is nearly coked, cover the top with small bits of butter and allow it to brown. Arrange on a hot platter, garnish with parsley and sliced lemon and serve with Hollandaise sauce.

Rice a l'Italienne.—For five persons one pound of rice will be required. Wash thoroughly in several cold waters, then dry and cook in a large kettle two-thirds full of boiling water until it is soft enough to be easily broken, but not soft enough to mash. Drain thoroughly and cool. Put one-fourth pound of butter in a saucepan with one medium sized onion, shredded. Cook slowly until well browned, then add the rice and quarter pound of grated cheese. Mix with two forks until well blended (never stir rice with a spoon). Cover the pan tightly and cook in a moderate oven for twenty minutes.

* * *

A Novel Potato Salad.—This salad, combines potatoes with nuts, and is hearty enough to make the main dish for the family luncheon. For four potatoes allow one cup of English walnut meats, a slice of onion, a bay leaf and a blade of mace. Add the seasoning to boiling water with a little salt and cook the nuts for ten minutes. Drain and throw into ice water until thoroughly cold, then dry in a soft towel. Add to the potatoes, which should be boiled until tender, sliced and kept hot until blended with the dressing. For this place one-quarter teaspoon of salt and half that quantity of white pepper in a bowl with three tablespoons of olive oil. Add one tablespoon of vinegar measured in a spoon which has

NEW
IDYLLWILD BUNGALOW
(Strawberry Valley)
A MILE HIGH—EASY OF ACCESS

Prices remain the same (moderate). No person with throat or lung troubles admitted.

Idyllwild is the place to go now. Mountain streams. wild and picturesque trails. Trained mountain ponies. Splendid orchestra, bowling, tennis. Tents and cottages for housekeeping.

Illustrated "Billy" booklet sent free. Gives terms and full information.

Address MR. R. A. LOWE, Manager
Idyllwild Mountain Resort Co., Idyllwild, Riverside Co., Cal.

When writing advertisers mention Cultivator.

WE GUARANTEE THE
White Lily Washing Machine

To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL,

White Lily Washer Co.
1539 Rockingham Rd. DAVENPORT, IOWA

When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

been rubbed with a clove or garlic. Cut the onion into bits, mix it with the hot potatoes and cold nuts and blend with the dressing, which has been stirred until thoroughly mixed. Stand on ice and serve on a bed of lettuce leaves.

The weather and crop conditions for the week ending July 17 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—Clear weather prevailed throughout the State during the week, with frequent light fogs in the coast districts and a light local shower in the vicinity of San Diego. The extreme heat of the preceding week was followed by much lower temperature in all section, continuing up to the present.

(Note:—The maximum temperature at San Diego last week was incorrectly reported as 86 degrees instead of 74 degrees.)

Grain harvesting and threshing and hay baling are progressing rapidly. Grain is far below early estimates in the Sacramento and San Joaquin valleys, but there is a fair crop in the coast districts and an excellent crop in Southern California. Hay has yielded the best crop for several years. Sugar beets are yielding well and are of excellent quality. Hops and beans are in good condition and making rapid growth. The heat of last week caused but trifling damage to beans and sugar beets. Corn, potatoes and vegetables are doing well. Feed is still plentiful and stock are in good condition.

Grapes and deciduous fruits were considerably injured by the heat of the preceding week, but the cool weather following has had a very beneficial effect and the loss will not be as great as anticipated. Fruit harvesting is progressing and heavy shipments are being made. Grapes are rapidly maturing and give indications of a large yield. Citrus fruits, nuts and olives are in excellent condition in most sections.

Eureka Summary.—In many places hay is mostly cut. Grass in interior and high altitudes is turning brown and rain would do more harm than good, but crops generally need moisture.

Los Angeles Summary.—Fruit is drying slowly in the coast sections on account of cool, cloudy weather. Oranges and lemons are making vigorous growth and promise good crops. Wild feed is plentiful on ranges. Stock is fat and in good condition. The honey yield is very good.

The State Board of Equalization began its summer session at the State Capital this week. It is expected that the tax rate to be levied for next year will be under fifty cents. The last rate was fifty-three and a half cents, but the increase in valuation this year promises to be over $100,000,000.

Supervising Engineer J. B. Lippincott of the U. S. Reclamation Service, announces that the contract for the Yuma dam has been awarded, the contract price being $900,000. This project involves the reclamation of lands lying in both California and Arizona, near Yuma on the Colorado river. The Klamath project, lying partly in California and partly in Oregon, will probably be under construtcion soon.

Los Angeles Markets.

Los Angeles, July 19, 1905.

Butter.

Butter quotations the same as last week, though it is predicted an upward tendency is observable. Supplies have already been drawn from storage to fill orders and shipping orders are largely increasing. Some butter dealers claim that butter was shipped in more directions from this market on Monday than was ever done before. Good shipping orders came from Los Vegas, New Mexico, and from almost every surrounding town.

B. of T. Creamery	.50
Valley Creamery, fancy	.50
Coast Creamery	.45
Fancy Dairy	.45
Cooking, per lb	.17@18

Cheese.

Cal. 3-lb. hand	.15¼
Cal. Young America	.14¼
California Anchor	.13¼
Northern	.12½@13
Eastern	.16
Domestic Swiss	.16½
Imported do	.27½

Eggs.

Eggs are much firmer for fresh ranch and the best of stock now arriving is testing out a large percentage of seconds. The hot weather of the valleys is proving too much for even the freshest of eggs.

Eggs, fresh ranch	.22@23
Eastern	.20@21
Storage	.20@21
Northern	.19

Poultry.

Fryers, 2½ lbs	.15
Broilers, under 2 lbs, per lb	.15
Young Roosters, per lb	.13
Hens, per lb	.12½
Ducks, per lb	.11
Turkeys, per lb	.17@18
Geese	.10@11

Live Stock.

The following quotations are f. o. b. Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	6.00
Prime Steers, cwt	4.00
Cows, cwt	3.00
Calves, cwt	4.75
Sheep, ewes, per head	3.50
Lambs, do	3.00
Wethers, per head	4.00

Potatoes.

Sweet potatoes, new crop, is the latest in the vegetable market, selling as high as three cents per pound. A few old sweets are left in the market and are now selling at $1.50. The ordinary new potato market is not strong.

Sweets, per ctl	1.50
Sweets, new	3.00

Vegetables.

Onions, yellow, per cental	.75@.85
Onions, Silver Skins, clt	.60@75
Onions, Texas Bermudas	1.50
Beets, per 100 lbs	.75
Cabbage, per sack	.35@50
Parsnips, per sack	.60@65
Bell Peppers	.12@15
Cucumbers, per crate	.35@50
String Beans	.1½
Wax Beans	.1½@2
Green Onions, doz bunches	.25@30
Carrots, doz. bunches	.25@30
Turnips, doz. bunches	.25@35
Garlic	20
Peas, per lb.	4@5
Rhubarb, per lb	.04
Egg Plant	.4@5
Chili Peppers, green	.3@4
Chili Peppers, dry	.1[illegible]
Tomatoes, local	.60@75
Asparagus	.8½@10
Parsley, per doz bunches	.30@40
Summer Squash, per bx 20 lb.	20@35
Green Corn, per sack	.75@1.00

Citrus Fruits.

Navels, fancy	1.50@1.75
Lemons, standard	.60@75
Lemons, fancy	1.25@1.75
Grapefruit	1.00
Grape Fruit, seedless	2.25

Fresh Fruits.

Strawberries	.3½@4
Dewberries	.04
Apricots, per box	.25@50
Peaches, per box	.50@75
Figs, per box	.50@65
Blackberries	.04
Muskmelons, Ponies	1.75@2.00
Standards	2.25
Watermelons, per lb	.1½
Grapes, Thompson's Seedless	1.00
Apples, Astrakans	1.20@1.50
Plums	.60@1.25
Nectarines	.65
Logan Berries	.05

DRIED FRUIT.

Dried fruit market is of little interest, there being quite a wide range between the producers' ideas and those of the buyers. Producers are holding for as close to six cents as they can get, while the buyers are insisting that the market will not stand over five cents. The holdover crop is practically one-fourth of that of last year. Then general tone of the prune market is much stronger and there is less distance between the buyers and sellers on the coming crop.

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	2.75@2.85
Small Whites	3.15@3.35
Black Eyes	2.50@2.75

Nuts

Almonds, paper shell	.18@20
Almonds, soft shell	.18@20
Peanuts, California	.5@6
Peanuts, Eastern	.7½@9
Walnuts, No. 1 softshells	.14@15
Walnuts, hardshells	.10@12

Honey.

Honey, comb, frames	.10@15
White strained, per lb	.5@5½
Amber	.4@5
Beeswax	.23@25

Hay.

Barley, new	$7@9
Alfalfa, local new	$10@11.50
Alfalfa, northern	.10@11.50
Wheat, new	10.00@11.00
Tame Oat, new	$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.50@1.55
Barley	$1.00@1.02½
Corn	1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	$1.20
Feed Corn Meal	$1.60
Middlings	$1.35
Cracked Corn	$1.55
Corn	$1.50
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

San Francisco Markets.

San Francisco, July 19, 1905.

DAIRY.

Scarcity of fancy butter has given the market a decidedly firmer tone and all grades have advanced correspondingly. The increased price has turned many buyers from fancy to choice grades. Prices are materially higher than last week and nearly all stock is quickly picked up at top quotations.

BUTTER—Per lb:

Creamery, fancy	23 @23½
Creamery, good to choice	21 22
Dairy, choice	19 @20
Store	16 @17

CHEESE—Per lb:

Cal. Creamery, mild new, ex.	11
Do, choice	9 @10
Young American	12 @13
Eastern, N. Y., Cream	17 @18

EGGS.

Eggs have been materially advanced though common stock is very plentiful. Owing to the continued hot weather, the lower grade stock predominates and in these grades it is hard to get the maximum prices.

EGGS—Per doz:

Ranch, selected large	25 @26
Ranch, good to fancy	22½@24
Store	17 @20
Eastern, firsts	18 @19
Eastern, seconds	16 @17

POULTRY.

Receipts of poultry from local sources have been very heavy the last few days, mostly young stock, and market is materially easier than for some time.

POULTRY—Old Roosters, per doz., $4@5; young Roosters, $5@6.50; Fryers, $3.50@4.50; Broilers, $2@3; Hens, small, $4@5; large, $5.50@6.50; Live Turkeys, per lb., 19@21c; Spring Turkeys, 24@28c; Ducks, old, $4@4.50; young, $4@4.50; Geese, per pair, $1.25@1.50; Goslings, $1.50@1.75; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@1.75.

FRESH FRUITS.

Peaches, apricots and plums have come in in very large quantities within the last few days, part of the time the market in these commodities being entirely off, though real fancy stock has, as a rule, commanded quick sale. Canneries have absorbed a large quantity of the offerings of lower grade stuff at from $15 to $25 per ton. Grapes are coming in plentifully and prices have been affected by the quantity. Fresno watermelons are coming in and, being of exceptionally high quality, sold as high as $3.50 per dozen.

Apples—Per box, fancy, $1@1.35; common to choice, 40@75c.

Apricots—Per box or crate, 25@50c; bulk, per ton, $8@20.

Figs—Per large box, $1.25@2.25; small box, 75c@$1.

Pears—Per box, Bartlett, No. 1, $1.50@1.75; common, 50@75c; other varieties, 50c@$1.25.

Peaches—Per box, 25@50c; basket, 40@50c; large boxes, 50@85c.

Plums and Prunes—Per small box or crate, 35@75c, as to variety; bulk, per ton, $10@15.

Nectarines—Per crate, White, 50c; Red, 50@75c.

Grapes—Per crate, 75c@$1.50.

Cantaloupes—Per crate, Coachella, $1@1.75; San Joaquin, $1@1.75; River, $2.50@4; Watermelons, per lb., 1½c; per doz., $1.50@3; Nutmeg Melons, $1@$1.50.

Blackberries—Per chest, $1.50@3.

Currants—Per chest, $5@6.

Loganberries—Per chest, $4@5.

Raspberries—Per chest, $3@5.

Strawberries—Per chest, Longworths, $2@4; large varieties, $2@3.50; Santa Clara Berries, $3@4.

Huckleberries—Per lb., 12½c.

VEGETABLES.

Vegetable market is without special feature. Potatoes are plentiful and coming in in better quality. Several Australian offerings have been absorbed at top quotations. Tomatoes have increased vastly in offerings, hence have sharply declined.

VEGETABLES—Tomatoes, small box or crate, 20@30c; large box, 40@60c; Green Peppers, per box, 75c@$1.25; Dried Peppers, Southern, per lb., 10@12c; Stockton, 11@12c; Okra, per box, $1@1.25; Beans, per lb, Green, 1@2c; do, Wax, 1@2c; do, Lima, 3@4c; Garden Peas, per lb., 3c; Cucumbers, per box, 60c@$1; Summer Squash, per box, 65c@$1; Egg Plant, per box, $1@1.50; Garlic, per lb., 3@4c; Green Corn, per sk, 50c@$1; per crate, $1@1.75.

ONIONS—Per sk, Red, nominal, Yellow, $1.15@1.35.

POTATOES—Per ctl: River Burbanks, in boxes, 85c@$1.15; in sks, 50@75c; Salinas Burbanks, 85c@$1.15; Early Rose, 50@60c; Garnet Chile, 50@60c.

DRIED FRUITS.

The dried fruit market is becoming much more active and on prunes the growers demand for a 3-cent basis has been conceded, and now some growers are not anxious to close out too quickly. Fine peaches are nearly all going to canners, which is causing a scarcity of the highest drying stock.

Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb. as follows:

Apples—Evaporated, 1905 crop, choice, 6½@7c; Sun Dried, nominal.

Peaches, 1905 crop—Crawford, fancy, 7@7½; choice, 6@6½; standard, 5½@5¾c; Muirs, fancy, 7½@8c; choice, 6¼@7c; standard, 6c.

Plums—1904 crop, Pitted, 6@8½c, as to quality.

Prunes, 1904 crop—Sack basis, f. o. b.: For boxed goods add ¼@½c; 30s to 40s, 5½@6½c; 40s to 50s, 4@4¼c, 50s to 60s, 2⅞c; 60s to 70s, 2⅜c; 70s to 80s, 2@2¼c; 80s to 90s, 1⅞c; 90s to 100s, 1¾c; 100s to 120s, 1½c; 1905 crop, 3@3¼c basis for Santa Clara four sizes, other sections ¼c less.

Apricots, 1905 crop—Royal, fancy, 7¼@7½; choice, 5¾@6½; standard, 5¼@5½; Moorpark, nominal.

HONEY AND BEESWAX.

Honey is in heavy receipt with comparatively limited demand, which has greatly reduced former quotations.

BEESWAX—Per lb, 28@29c.

HOPS.

The price of desirable stock is nominal at 24@27½c per lb, according to quality, many producers demanding thirty cents.

LIVE STOCK.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@5½c; rough heavy, 4¼@4½c; common, 3½@4c.

HAY AND FEEDSTUFFS.

HAY—Per ton: Wheat, $8@13.50; Wheat and Oat, $8@12; Oat, $7@11; Barley, $6@9; Clover, $7@10; Alfalfa, $6@10; Stock, $5.50@7.50.

FEED CORN MEAL—Choice Grades per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $22.50@23.50.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $25.50@28.50.

FLOUR AND CEREALS.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 shipping, per ctl, $1.47½@1.52½; White Milling, good to choice, $1.55@1.65.

OATS—Good to choice, White, nominal; Red, $1.22½@1.30 for new crop.

BARLEY—Choice No. 1 Feed, $1@1.05; off grades, 96¼@98¾c; Shipping and Brewing, nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.45@1.47½; small do, $1.50@1.55; White, $1.37½@1.42½; Eastern, Yellow, $1.37½@1.42½; White, $1.37½@1.42½; mixed, $1.35@1.40.

RYE—Good to choice, per ctl., nominal; new, $1.45@1.50.

CITRUS MARKETS

The Valencia market has remained about the same during the past week, with auction markets not quite equal to prices at which the West are taking them, where the demand is more active and everything in sight is being used at full prices for desirable sizes. Fancy fruit is brining $3 to $3.15, f. o. b., with extra choice $2.85 to $3, and choice at $2.75 to $2.85. Rather light shipments are going out, mostly on order.

* * *

The Lemon market, on account of the hot weather, has gone skyward. California Lemons are selling at $4.50 to $5.50 per box in western markets and about the same in auction markets where the fruit arrives in fair condition. With the stocks on hand in California run down to fresh cut fruit, there is little likelihood of prices being low in the immediate future, although such extreme prices can only be expected under weather conditions that make heavy consumption.

NEW YORK.

The orange market was very quiet during last week, lower grade stuff being a drug on the market and closing, if anything, weaker than the opening. Navels were entirely off, both in quality and price, often being but little more than transportation charges. Sweets and Mikes sold fairly well, and Valencia Lates commanded good prices all through. Weather was intensely hot and depressing to all business.

Lemons sold at very high prices, the weather proving a stimulus to the market. Store prices ran from $5 to $7 and held on good stock at those prices.

* * *

Sixteen cars sold at Mondays auction.

Some quotations were: Valencias.—Old Mission, fy, Chapman's, $4.90; Cloister, xf, Rubidoux Co., $3.95; Blue Seal, xf, A. C. G. Ex, $3.85; Niagara, xf, Stewart F Co., $3.10.

Sweets averaged $2.40 and lemons averaged $3.95 to $4.50. 12,000 boxes of Sicily lemons sold.

Tuesday's intensely hot weather reduced the demand for oranges and correspondingly increased the demand for lemons, oranges arriving in a very bad condition, some so much so that they did not bring transportation. Lemons were exceedingly strong, ranging from $5.50 to even $7.00. Thirteen cars sold.

Valencias commanded good prices, fancy prices being around the $4.00 mark and choice at $3.00 to $3.50. The demand for sweets light. Prices averaged $2.00 to $2.50. Lemons continue active, very ordinary stock going at $3.60 to $4.00, better grades between $5.00 and $6.00. 17,000 boxes of Sicily lemons sold during the day.

Six cars of oranges were sold in the auction on Wednesday. Old Mission Valencias topped the market at $6.20. Outside of Valencias the prices were exceedingly low. Intensely hot weather is seriously affecting the market for oranges and having quite the reverse effect on lemons. A dispatch says that one car of machine-wrapped Valencias of Gypsy Queen brand was sold at fine prices. One reason for the low prices usually prevailing with oranges is made that in the humid atmosphere stock melted away and decayed almost as soon as removed from cold storage.

Average prices received were in Valencias: Old Mission, fy, $5.15; Gypsy Queen, fy, Riverside, $4.30; Golden Flower, xf, R G O, Redlands, $4.30; Golden Harvest, xf, Rubidoux, Riverside, $1.65.

Lemons, Red Ribbon, fy, $4.15; Fox, xc, Upland, $3.12; Pico, xc, S-T Ex, Whittier, $2.60; Bonnie, xc, S-T F Ex, Arroyo, $3.10.

BOSTON.

Nine cars sold at Monday's auction, all oranges except Valencias commanding very low prices.

Some quotations were: Valencias.—Quail, xc, O-C Ex, $4.05; Mocker, O R, Spence Ft Co., $3.65.

Sweets averaged $2.50, some extra fancy Mikes selling at $5.70. Lemons sold at $4.50 to $6.00.

Six cars sold at Tuesday's auction. Market steady. Weather exceedingly hot. Valencias strong, choice grades bringing $3.35 to $3.60, and strictly fancy selling at about $4.05. Market exceedingly active on lemons, choice grades bringing $4.00 to $5.50.

PHILADELPHIA.

Ten cars sold on Monday, Valencias selling around the $3.50 and $4.00 mark, sweets barely covering freight and packing. Some grapefruit sold as low as .45. Lemons firm at $3.00 to $4.00.

* * *

Total number of shipments of fruit since November 1st are 27,747, of which 3295 were lemons.

Law is like prussic acid—a dangerous remedy, and the smallest dose is generally sufficient.

The sins of ignorance are most numerous, but the sins of knowledge are most dangerous.

ORPHANS RECEIVED.

The following children have been received in the Boys' and Girls' Aid Society Home since last published notice:

1. Ray James, half orphan, age 12, eyes grey, hair brown. 2. Lillie Hastings, half orphan, age 11, eyes blue, hair brown. 3. Helden Hastings, half orphan, age 7, eyes blue, hair brown. 4. Mary Hewitt, orphan, age 9, eyes blue, hair brown. 5. Wm. Mendoza, half orphan, age 6, eyes black, hair black. 6. Josie Rivera, half orphan, eyes black, hair black, age 6. 7. Rena Huddleston, half orphan, age 7, eyes blue, hair brown. 8. Sena Huddleston, half orphan, age 7, blonde. 9. John Huddleston, half orphan, age 11, eyes hazel, hair brown. 10. James Gibbs, half orphan, age 9, eyes blue, hair brown. 11. Cecil Gibbs, half orphan, age 9, eyes blue, hair brown. 12. Winifred Nichols, half orphan, age 6, eyes blue, hair brown. 13. Max Nichols, half orphan, age 5, eyes blue, hair brown. 14. Chester McCawley, half orphan, age 9, eyes brown, hair brown. 15. Stella Watts, half orphan, age 8, eyes grey, hair brown. 16. Edward O'Leary, half orphan, age 2, eyes blue, hair brown. 17. Myrl O'Leary, age 4, half orphan, eyes blue, hair brown. 18. Walter Fowler, half orphan, grey eyes, light hair, age 8. 19. Edna Hulbert, orphan, age 10, hazel eyes, brown hair. 20. Marjorie Duff, half orphan, age 9, eyes blue, hair light brown. 21. Harold Duff, half orphan, age 9, eyes blue, hair brown. 22. Maggie Clements, orphan, age 6, colored. 23. Lucy Clements, orphan, age 9, colored. 24. Howard Clements, orphan, age 13, colored. 25. Carmilita Taliberti, orphan, age 11, eyes black, hair black. 26. John Taliberti, orphan, age 7, eyes black, hair black. 27. Louis Taliberti, orphan, age 10, eyes black, hair black.

MRS. E. A. CHRISTIAN, Supt.

IN WOMAN'S BREAST

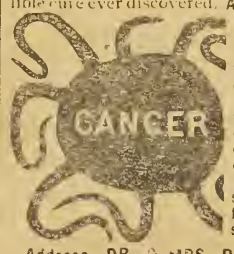
ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

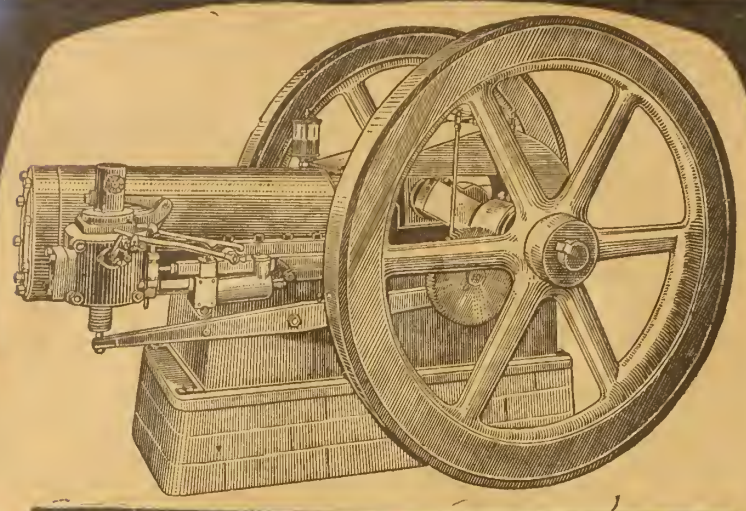
Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.



Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO,
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.

Please Send to Some One with Cancer



THE "WESTERN" GAS GASOLINE & DISTILLATE ENGINE.

Irrigation Plants

The Western Distillate Engine, sizes 5 to 100 H. P., is now pumping water

CHEAPER

Than any other engine built. We design the plant complete, install it and deliver to you.

Doing What We Guarantee

It will outlast any two of the old-style engines now in the market Call and see them built and tested.

Western Gas Engine Co.

908-932 N. Main St. Los Angeles, Cal.

SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BOREO WOOD WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. **San Francisco Office, 301 Market St.**

Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

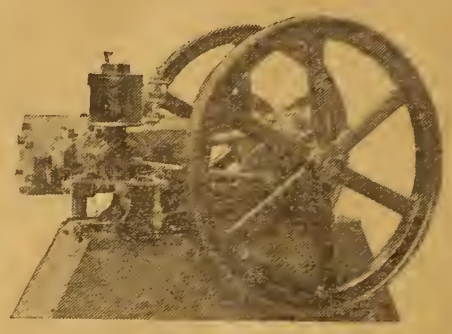
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

PROGRESS GAS ENGINES



Are constructed upon scientific principles after the most approved designs for steady work. It is an up-to-date engine and fully guaranteed. The cost of operating our 4½ horse power engine working at full speed is about 35 cents a day of ten hours.

Our special features are: High Compression, Positive Inlet Valve, Cylinder Bores Reamed, Sparker is of Hammer Break Type, Economy of Electric Battery. Write for descriptive Pamphlet and Price List.

Complete Pumping Plants Furnished

Progress Gas Engine Company

Telephone Main 5165 951 N. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay. Will not deteriorate with age.

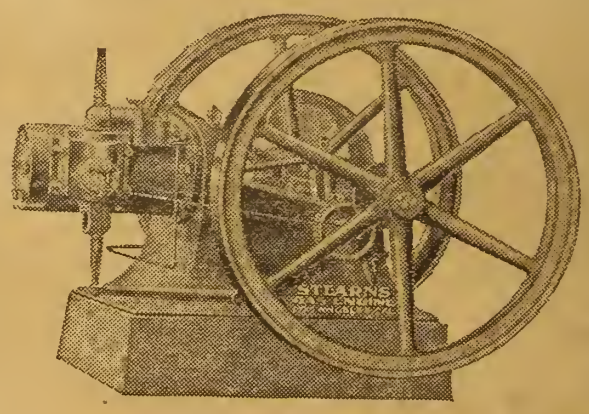
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.

313 N. LOS ANGELES ST., LOS ANGELES, CAL.

Write for samples, prices and booklet

Simplicity HOME MANUFACTURE Economy



A first-class home-manufactured Gas Engine which is proving a winner. The mechanism on intake valves allows spring to lengthen and valve to work easier and take a larger charge when needed.

A new idea—another step in advance—is the sparker which operates only when necessary to explode the gas and gives same length of time in contact whether early or late spark.

WRITE FOR CATALOGUE AND INFORMATION

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

LIBRARY
OF THE
UNIVERSITY of ILLINOIS

California Cultivator

LOS ANGELES SAN FRANCISCO

JULY 28, 1905

Happy the man whose wish and care
A few paternal acres bound,
Content to breathe his native air
In his own ground.

Whose herds with milk, whose fields with bread,
Whose flocks supply him with attire;
Whose trees in summer yield him shade,
In winter, fire.—Alexander Pope.

CIRCULATION EXCEEDING 10,400

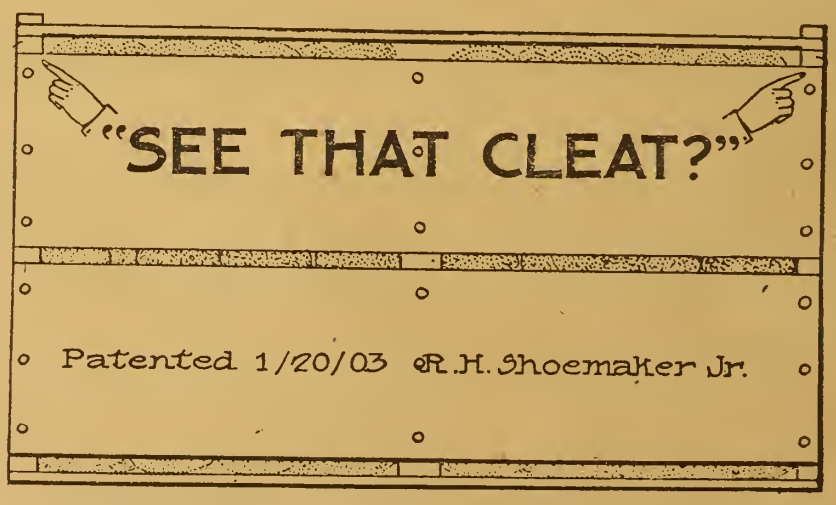
How Will You Ship Citrus Fruits Next Year

What will you do with your Oranges? What will you do with your Lemons? How is it possible to get the most money out of them? The quickest, the surest, with least perplexity?

Let's talk it over quietly for I believe I can place your entire output for cash. I have had seven years experience as resident salesman for the largest California shippers in New York, Chicago, Kansas City, Pittsburg, Cleveland, Minneapolis, St. Paul and surrounding towns, and twelve years buying and shipping in California. Both Eastern experience and experience in California justifies me in saying that I can get the best money out of your fruit. But better than all, is what I have done.

I Have Marketed Over 500 Cars This Year

and nearly three months yet to ship, and successfully and to satisfaction of the producer. I can place your fruit for cash. My trade is of the best because of the fact of knowledge of the business and because of my use of my ***Patent Cleat*** on end of box underneath the cover.



Those oranges look nice there, don't they? All even; No Compressing; No Bruising of the fruit—yet the Boxes are Full Pack.

Why do you handle oranges and lemons like eggs until you nail on the lids, and then soak it to 'em.

Can you give me a reasonable answer? No? Just habit? Well, then you are simply in a rut and blind to your own interests and not up to date. And yet you know or feel it's wrong to compress them.

This cleat has proven a wonderful fruit saver. Fruit shipped under it shows less than a half of the decay of that shipped under the great pressure of the ordinary box. My package helps sell your fruit.

It's a winner. Associations should confer with me at once regarding handling next year's crop. It may help you to an early decision and it may mean to you a greatly increased return.

PHONES
Main 3342
Home 3448

R. H. Shoemaker, Jr.

522 H. W. Hellman Building, LOS ANGELES, CAL.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 4 LOS ANGELES, CAL., FRIDAY, JULY 28, 1905 Subscription $1 a Year

How May the Thrips be Controlled?

An Interesting Article on Life History and Observations as to Control of the Pest of Prune Orchards, by Dudley Moulton, Entomologist of Santa Clara County.

The editor of the California Cultivator has several times asked for our experience with thrips here in the Santa Clara valley, and each time we have hesitated, feeling that we did not have enough definite data to warrant an article, but now that the insects have concealed themselves in the earth, awaiting another season of opening buds and blossoms, February, 1906, it seems an opportune time to give to the readers of the Cultivator and others, what we have learned during the year, and, based on this, if we may, offer a suggestion as to a possible means of control.

As is now known, this thrips is a pest in other parts of California, and has been for several years though the nature of injury by it has not been explained nor has anything been done to keep the insect from spreading or to check its ravages. Therefore, we feel that the work done here will prove of value to all who are interested in this subject of thrips and especially to those who are seeking a remedy. There has been much over-anxiety during the past year because of the great lack of knowledge of this particular insect, no one seeming to know how many broods there were to be, where the insect came from, when it arrived on the tree, or where it went to when it left; we hope this will in a small way fill this vacancy and alleviate this anxiety for the coming year.

* * *

Species.—Three species of thrips have come prominently to our notice, Euthrips pyri, the pear thrips, or the thrips which has concerned us most, Euthrips tritici, the grass thrips found commonly all the year round in roses and other flowers and blossoms, and which is often taken for the pear thrips, and Thrips tabaci, the onion thrips. The last named has been very abundant in onion fields and is common in many of our wild flowers, and of late has been found feeding in terminal buds on branches of our fruit trees. That habit is similar to that of the pear thrips and has occasioned this, the onion thrips, to be taken for the other. The grass and onion thrips have several broods or rather have a continual breeding season, and can be found in almost any stage at any time. The pear thrips is distinctly a winter form, there is but a single brood a year and though similar in external appearances its habits are decidedly different from those of the others.

* * *

First Observed.—The injury of thrips in our fruit trees came prominently to the attention of orchardists in February, 1904, when men noticed that their trees were not coming into blossom in their natural way, buds appeared blasted, turned brown and fell without opening, trees which did bloom dropped their blossoms early and in either case trees looked much as though they had been scorched by fire. This browning and dropping off had happened in places for several years but was not explained until February, 1904, when it was definitely determined to be the work of an insect, a thrips. It was also learned that these insects could completely clean an orchard of its fruit and this year wherever thrips appeared, though few in numbers, people naturally expected the worst.

Prune Branches, on Which All Blossoms Have Been Injured, and Many Have Completely Fallen from the Buds.

Life History and Habits.—In brief, the life-history and habits of this insect are as follows: Full grown adult thrips come to the trees in February, when new buds and blossoms are just opening out, they at once begin to feed and later to deposit eggs. The insect makes up for her (for all insects which come to the trees are females) long fast by ravenous feeding and this is easily appreciated by the great amount of injury which a few insects can effect and the dispatch with which they can do it. With regard to the feeding of adult thrips, suffice it to say that they attack all newly exposed leaf or blossom tissue on any of our fruit trees, some of the walnuts, also grape vines. If possible they force their way down into the bud and feed where they are wholly or partly concealed. They work in one place or on one tree for awhile, then move to another and even still others as they find better food. They leave their feeding places at evening and hover about the tree or fly or are carried on a breeze to other places, thus the insects are easily spread from tree to tree and orchard to orchard.

For depositing eggs preference is given to newly exposed leaf petioles or blossom stalks, later to the midrib and veins on the back of the leaf, or to the tissue of the leaf itself. The epidermal layer is first broken or torn away by the mouth, then the insect, moving forward a little, cuts an incision with her saw-like ovipositor and inserts an egg down into the plant tissue. After four days in the egg, the very delicate young thrips breaks its covering, forces itself out through the incision and at once begins to move actively about and to feed. Young thrips injure foliage and fruit rather than blossoms, and are usually to be found in terminal buds or on fruit under protection of the old blossom.

They remain in this stage about four weeks and on reaching maturity, with much stored up fatty tissue, leave the tree and seek a secluded place in the ground. They hold over as quiescent larvae for several months before changing to pupae. At present, July 21st, three months after leaving the trees, they are still in the larval stage and show no signs of developing wings. This thrips spends one or two months above ground, when it feeds ravenously, doing all its damage, then goes into the ground, where it holds over until the following year.

* * *

Cannot be Reached by Sprays.—Spraying for thrips, as many of us have learned from experience, is a very unsatisfactory means of control and for several reasons. All spraying must be done either while the tree is in bloom or while the tender foliage is just pushing out, hence the insect cannot but be a hard one to kill without doing injury to the tree. Secondly, their feeding habits are such that it is almost impossible to reach them. Thrips force themselves down into the bud or blossom and are thus protected. The injury is extremely rapid, three or four days being sufficient to entirely clean an orchard of its blossoms. It is necessary therefore to cover an orchard almost at one time and over a large area this would be impossible. The insects do not all leave the ground at once but keep coming up for several weeks and from this and from their habits of migration one may spray his trees, kill most of the insects and within a few days his trees will be as thickly infested as before. Sprays will doubtless be tried again, but they will be only partly effective; they can only lessen the numbers of the insect with little or no appreciable results and there is almost certain to follow injury to the tree. It is useless at this time to give the results of the spraying which has come under our notice this year; no one spray has proven satisfactory and under the conditions none can. The whole theory for controlling this insect by spraying is a wrong one.

* * *

Natural Enemies.—The subject of natural enemies for our insect pests is of consideration second to none and yet, for this particular thrips I fear we have a hard problem. Several common predaceous insects feed on thrips, but from the very nature of the life of the pest they cannot prove a successful check. A single thrips spends about a month on the tree and eleven in the ground, though as a species it lives some two and a half months on the tree and the rest of the year underground. A beneficial insect to be ef-

(Continued on Page 78)

News Notes from Florida

By Rev. C. J. K. Jones, Stetson, Florida

Another letter, full of newsy notes, is received from Rev. C. J. K. Jones, formerly of Los Angeles, but not at Stetson, Florida. Rev. Mr. Jones has become an agriculturist in fact, as he was in theory and knowledge when in California. We note in a recent issue of the Volusia County Record the following:

"One of the prettiest farming scenes in the county is out on the fine farm of Dr. C. J. K. Jones at Stetson. He has 20 acres of cow peas waist high, and just beginning to fruit. The Doctor will convert the greater part of it into hay, and the pea vine makes a most excellent hay. Dr. Jones proposes to have one of the model farms of the State. He has everything growing in the highest state of cultivation. He also has a crop of the Conch pea, which is the finest pea grown for table use." The notes which Mr. Jones sends to Cultivator readers are as follows:

The orange trees in Florida, where well fertilized and cultivated, are doing very well, in making new growth. The long drouth has been broken and the fruit is increasing in size rapidly. I note a good deal of rust on both oranges and grapefruit. I see no reason for changing my former estimate of the coming crop. As recently expressed in figures by one who has been over the ground pretty thoroughly, the crop will approximate 800,000 boxes of oranges and 175,000 boxes of grapefruit.

Speaking of grapefruit, there are extensive groves of this variety of citrus in Southern Florida. I recently saw notice of the sale of a 110 acre grove for $100,000, near Arcadia, in De Soto county. The purchaser is the owner of an 80-acre grapefruit grove in addition to his late purchase.

* * *

A friend in Southern California wrote to me a short time since that he had just applied muriate of potash with blood and bone to his orange trees. I immediately wrote to him that muriate of potash should never be applied to orange trees, or to any tree of the citrus family. It is a safe rule, also, to apply blood and bone only in very small quantity and at infrequent intervals. Of choice, I would never apply it to any citrus trees. Organic nitrogen should be used very sparingly. When used to excess it is the fruitful source of many diseases to our trees. Fruit from trees that have received it in liberal quantity neither ships well, nor does it stand up when once on the market. Such fruit also lacks character in its flavor. Moreover, trees fertilized with organic nitrogen feel low temperatures to a marked degree. I would prefer nitrogen derived from nitrate of soda and sulphate of ammonia. Stable manure, for the humus it provides, together with certain bacteria, may be applied once in three years, but not oftener.

The source of nitrogen has a radical effect in determining the health and character of the growth and quality of the fruit of citrus trees, as before stated. Some varieties can stand more organic nitrogen than others—for example, the Valencias are gross feeders and will resist ill effects of organic nitrogen better than the navel—but sooner or later all varieties are injuriously affected by the constant applications of organic nitrogen. I knew of a handsome grove in San Bernardino county that was nearly ruined by successive applications of blood and bone. The element of diseases, melanosis, and other troubles, would seem to be in the blood source of the nitrogen, as nitrogen, derived from bone in the mixture of a balanced fertilizer is not only harmless, but beneficial, and this notwithstanding the truthfulness of the general principle that the main source of nitrogen for the citrus family should be inorganic.

* * *

The question of humus in the orange groves of California is one of growing importance. Probably there is no method so cheaply available as planting Canada field peas, not later than October 15th. I would prefer them in the ground by October 1st. With a favorable season they should be ready—when in full bloom—to plow under by February 1st to 15th. These peas supply both nitrogen and humus. They may be fertilized with a mixture of six to seven per cent phosphoric acid (derived from acid phosphate) and seven to eight per cent potash (sulphate). In Florida beggar-weed (Desmodium tortuosuni) and crab grass (Panicum sanguinale) are the main dependence for ground cover and humus. These are either plowed in, or better, well chopped in with a cutaway harrow in October. They resolve in the soil quite slowly during the late fall and winter, but are ready for the use of the tree by early spring.

In Florida beggar weed is by the majority of grove men considered the only leguminous crop that is safe to put in an orange, or indeed, any citrus grove.

* * *

In Florida we are having unfortunate experiences with our seeds of various kinds. It seems impossible in the State, or out of it, to get pure seed of any sort. Here are some instances that have come to my notice. Oats bought of a reputable firm for Texas Red Rust Proof turned out anything but rust proof—although some of them were red, and they or their ancestors may have come from Texas—they were a failure. Beggar-weed seed was ordered in another case. Kaffir corn was sent instead. Again egg plant seed was ordered from another house; it turned out to be a purple weed! "Florida Favorite" watermelon seed was bought. There were four different kinds of melons and but few "Florida Favorites." From an old New York seed house, Mammoth Russian sunflower seeds were bought. Not ten per cent proved to be the Mammoth Russian. I have seen clover seed so foul with a mixture of grass and weed seeds that they made up the large majority—eighty per cent of the so-called clover seed. Our legislatures should pass stringent laws making seedsmen liable in pecuniary damages to the farmer and gardener whom they thus rob of his money, time, labor and crop. Of late many of these men have sought to escape responsibility by saying "We do not guarantee our seeds. You buy them at your own risk." This is not fair, for the planter of seeds assumes all the risk. The boycott is not American and yet it seems to be necessary for mutual self-protection, that the names of these unreliable seed dealers shall be passed from mouth to mouth until they show works meet for repentance.—C. J. K. Jones, Stetson, Florida, July 15, 1905.

PEACH PLANTING IN GEORGIA.

The prediction is made that Georgia will see its greatest planting of peach trees the coming season. The State claims to have within its boundaries some of the greatest peach producing belts in the world. One section, that of Perry, the shipping town of which has a population of only about one thousand people, claims to have a greater number of peach trees and ships more peaches and receives more more money for them, than any other section of the globe. There are in the one county of Houston over 4,000,000 of peach trees with an annual yield of about 900 cars. In that one section of Perry, it is estimated there will be 100,000 trees planted this coming season. One firm alone will plant over 3500 trees. The section mentioned has not been as yet infested with the San Jose scale and the growers are maintaining a rigid quarantine and are taking every precaution to keep it out.

According to the twelfth United States census, the value of the fruit of the United States was $131,423,517, divided as follows: Orchard fruits, $88,751,840; grapes, $14,090,937; small fruits, $25,030,711, and subtropical fruits, $8,549,863.

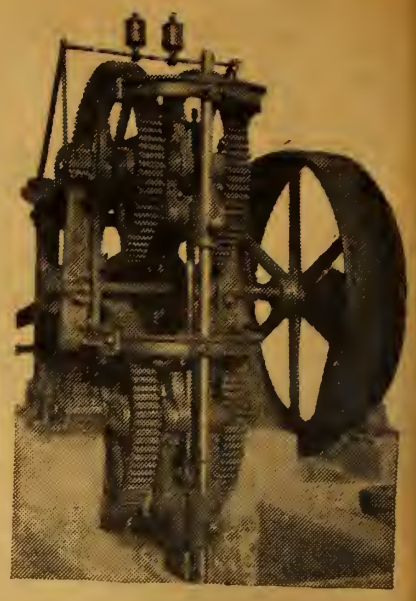
Of the $131,423,517 worth of fruit reported, California contributed $28,280,104, or 21.5 per cent; New York, $15,844,346, or 12.1 per cent, and Pennsylvania, $9,884,809, or 7.5 per cent. The five States of California, New York, Pennsylvania, Ohio and Michigan reported fruits of an aggregate value of $68,769,841, or 52.3 per cent of the total value of the whole country's crop. Measured by its relation to all the States in the production of fruits of all kinds, Georgia ranked in 1900 only twenty-ninth in importance; but in the production of peaches, the State ranked among the first, if not the first. Delaware and New Jersey, once peach centers, show a most remarkable decrease in the last decade, while the largest areas in the history of peach planting are reported in Georgia, Alabama, North Carolina and eastern Texas.

NOT ONE.

"Just one," said the lover as he stood upon the stoop with his girl; "just one."

"Just 1," said the mother, putting her head out of the bedroom window above. "Well I guess it ain't so late as that, but it's pretty near 12, and you'd better be going or her father will be down."

And the lover took his leave with a sad pain at his heart.



IF YOU SEE THE

NEW POMONA PUMP

Work, you will have no other under any consideration.

The long, easy stroke without any jerk or jar makes them popular at once.

Built on strictly mechanical lines, having a direct center pull on the rods.

Where one goes others follow and we are rapidly taking the country.

Every customer is a pleased customer and our best advertising medium.

Write for our new catalogue.

Pomona Manufacturing Co., Manufacturers

POMONA, CAL.

When writing advertisers mention Cultivator.

Half Rates EAST

SALT LAKE ROUTE

One Fare Round Trip to New York, Chicago, St. Louis, Memphis, Kansas City, Omaha and all Eastern Points.

CHOICE OF ROUTES RETURNING

PORTLAND EXPOSITION—

$60.00 Round Trip, limit 90 days. Going via Salt Lake City and the famous Columbia River, returning via Shasta Route and San Francisco. Stopovers allowed.

$40.00 Round Trip, limit 21 days. Going and returning via Salt Lake City and Columbia River.

Personally Conducted Tours to Yellowstone Park, Portland Exposition and Alaska. Information gladly given at City Ticket Office, 250 South Spring Street, Los Angeles. Both Phones 352, First Street Station, Home 490, Main 4095.

When writing advertisers mention Cultivator.

Best Prune Dip GREENBANK Powdered Caustic Soda and Pure Potash

T. W. JACKSON CO., 125 California Street SAN FRANCISCO

When writing advertisers mention Cultivator.

Conducted by PROF. A. J. COOK, Claremont

BEE NOTES BY THE WAY.

In my last article I referred to the fact that in the Lisbon district along the Sacramento river I saw no bees, and yet, from the great fields of alfalfa, the dry atmosphere, and the successful experience of Mr. Stevenson, not many miles up the river, I was convinced that that would be an admirable location for an apiary. As the cars sped us on over the wonderful Shasta route, alnog the upper Sacramento and the Klamath, in fact away up into Oregon and Washington, I was reminded many times of the opportunity, as it seemed to me, for the beekeeper to increase his belongings. Indeed, this was more or less true all through on the Northern Pacific railroad, and I am fully persuaded that our agricultural resources are as yet hardly touched. It seems to me that here is a splendid field for research by our Department of Agriculture to give us much valuable information. I have before referred in these columns to the fact that because a plant secretes nectar in one section of the country, it is no certain evidence that it will do so in another. We have noted that while alfalfa is a noted honey plant in the San Joaquin and Sacramento valleys, it is almost a failure as a honey plant in the alfalfa regions of Los Angeles county.

Thus we may never know whether any locality is good for bees until we have actually tried it. This prospecting, if we may use the term, is valuable for our whole people, and ought not to be the work of the individual. These fertile valleys of California, our sister States north and along the Columbia, Yellowstone and Missouri rivers, certainly give great promise for practical bee-keeping. How could our Apicultural Division of our Bureau of Entomology of the Department of Agriculture do a better service for apiculture than to demonstrate to the beekeepers of the country the exact apicultural promise of each section?

* * *

BEEKEEPING FOR BEGINNERS.

Fuel for the Bee Smoker.—We have all read of how we may save time by a stitch in time. Plan for saving time might often be employed with great advantage in many lines of our agricultural work. At this season of the year the bee smoker is constantly in use. Often much valuable time is lost in starting the smoker. Who has not been vexed, more than once, by reaching for his smoker, when the need was great, to find the fire out, the smoke wanting, and the angry bees most irritating. If at such a time the smoker could be lighted in a second, it would not only save time, but often serious vexation. For this purpose it is well to provide rolls of cloth—burlap is good—which may be ready at any time. These rolls are prepared as follows: Roll the cloth until the roll will just go nicely into the fire tube of the smoker. Secure the roll by tying with strings every three or four inches. By use of a sharp hatchet we now cut this roll into lengths just right for our smoker. We next dip one end of each roll into a strong solution of salt petre, when our smoker is ready for use. The salt petre makes it easy to light the smoker and so we save much valuable time. Such a roll will last for a long time.

* * *

When to Extract Honey.—I have often referred in these columns to the importance of delay in extracting our honey until it is fully ripe. In a recent number of the American Bee Journal, many of the leading beekeepers of the country give their opinion as to the amount of honey that should be capped over before extracting should be done. Some say when it is two-thirds capped, and thus on even to one hundred per cent. Mr. Dadant, who, perhaps, is as good authority as we have, states that he would not fix the time upon the amount capped over, but rather, upon the body of the honey. The extracting should always be delayed until the honey is thick and so thoroughly ripe that no one could object to its quality. It only remains to be said that nothing is so good a guide to complete ripening as that the honey should be fully capped over.

I am free to say that probably nothing has so damaged the reputation of extracted honey as premature extracting. The temptation to extract before the honey is fully ripened is by no means light. We save time in the uncapping, if the work is done just as the bees begin the capping, and the thinner honey is much more easily extracted. Yet, he who is the victim of this temptation, saves labor at a serious cost, not only to himself, but to the fraternity as a whole. It should be the aim of every beekeeper to make his product so admirable and perfect that its sale and use would always popularize this food.

* * *

THE OCTAGONAL SILO.

Of late there has been considerable said in the agricultural press favoring the construction of polygonal silos. So far as I know, I was one of the first in the country to construct such a silo. This silo is now standing within a few rods of where I am now sitting. The first silo I built was a square one which, though it has been used for years, is as good as ever. This was a plastered silo and by simply washing it each year with a cement wash, is ever ready for the silage. Yet we found from the first that there was too great a loss in the corners, no matter how much pains we took in filling. This was what led me to make my octagonal silo. While this was an improvement on the older silo, there was still loss, which led to nailing a beveled board vertically in the corners. This improved matters, but still it is far from perfect. I am sure no one can afford to build such a silo. Indeed, it is cheaper to build a round silo and then we have no corners at all. As I have already stated in the Cultivator, there are two styles of round silo—the stave silo and the one made of boards nailed on horizontally. In the next article I will give my reasons for preferring the latter, as I am requested to give our readers the best style of silo to build. I am free to say that where the dairyman can secure a crop of corn, he can never afford to dispense with this valuable adjunct of the dairy farm. Some of our best authorities, like Mr. Sessions and Mrs. Sherman, believe thoroughly in the silo, even the corn crop may now be utilized for this purpose. Some of our best feeders for the markets or shambles, are equally pronounced in favor of the silo. The importance of succulent, appetizing food cannot be over estimated. It is this fact that will always keep the silo to the front on the farm.

* * *

KIND OF PEAS TO PLANT.

Subscriber from Redlands states that he is unable to buy the small Canadian field peas, but that his dealer recommends the large Marrow fat, saying that the growth equals that of any variety. He asks my opinion. The great point is to get good growth. The advantage of the Canadian field pea is the luxuriant growth of the vines. The Marrowfats would be still better in the fact that the peas would be so large and valuable. I am sure no one makes a mistake in planting either of these varieties and in case we wish to sell the peas I should prefer the Marrowfats. I wish I could say something to induce all our orchardists to plant their orchards to peas the coming September.

* * *

THE SAGES FOR HONEY.

Mr. Milo Smith, La Crescenta, who keeps bees, writes that in his opinion, the black, or bald sage, is much superior to the white sage for honey. I have no doubt that the quality is as good, and, taking all the years together, from all reports, I presume the black sage is superior.

A PAPER-MAKING SPIDER.

In the heart of the African continent where no other paper is manufactured, the spider paper-maker does her quiet work. Back and forth, over a flat surface about an inch and a half square, on the inside wall of a hut, the spider slowly moves in many lines until the square is covered with a pure white paper. Under this she places from forty to fifty eggs; and then, to fasten the square of paper more securely to the wall, she makes a strip of paper about a quarter of an inch broad, and with this glues the square carefully around the edges.

When all is done, the spider, which is quite a large one—places herself on the center of the outside of the little flat bag so carefully made, and begins a watch which is to last for three weeks without intermission. Apparently the young spiders would have many dangers to fear, did not their anxious mamma wage a fierce war upon the cockroaches and other insects that come near. After three weeks of unremitting watchfulness, the mother-spider leaves her nest in the daytime to hunt food, but she always returns at night, until her young are strong enough to take care of themselves.

NUTRITIVE VALUE OF BREAKFAST FOODS.

In a bulletin issued by the Connecticutt Experiment Station regarding values of breakfast foods we note:

"In general the prepared cereal products are all wholesome and nutritious and when reasonable in price are economical sources of nutrients and energy, especially when compared with meats or green vegetables. The different preparations from the same grain resemble each other quite closely in actual nutritive value. A curious name or appearance or process of preparation does not indicate any extraordinary food value, and the intelligent buyer may make his choice largely in accordance with taste, distrusting the extravagant claims made for any particular brand. If he considers economy, however, he is hardly justified in paying for some brands prices which are equivalent to 15 to 20 cents a pound when other preparations of equal value may be had for 6 or 8 cents a pound. . . . The nutritive value of the 'malted' or so-called 'predigested' preparations is no greater than that of other preparations from the same grains. In most of the malted preparations the quantity of starch actually converted into soluble material is very small, and in some cases none has been changed.

"The thoroughness of cooking has quite as much influence upon the actual food value of the preparations as the small differences in composition. If the cereals are not thoroughly cooked some of the nutritive material will escape the action of the digestive juices. The partially cooked cereals should always be further cooked for at least as long a time as directed, and even longer cooking will be advantageous in many cases."

RANCH FOR SALE

13 acres 12 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R. D. 1 RIVERA, CAL.

When writing advertisers mention Cultivator.

THE "BOSS" TREE PROTECTOR

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING CO.
450 Santa Fe Ave. Los Angeles, Cal

When writing advertisers mention Cultivator.

The T. J. Rogers Fumigating Co.

FUMIGATORS and SPRAYERS

With years of practical experience and employing only competent men we are prepared to do first-class work at reasonable prices. Correspondence solicited. Best of references.

Address: South Pasadena, Cal.

Refer to Advertising Manager Cultivator.

CONTROLLING THRIPS.

(Continued from First Page.)

fective must in a way parallel the life-history of its host, which in the case of this thrips would be a difficult matter. Predacious or parasitic insects are able to attack thrips above ground, but, from the very nature of their hiding can hardly reach them at other times. So far as we know no insect can effectively control another if it must be a general feeder or if it must live for a time on other insects, while its real host insect is in an unaccessible form, as is true with this thrips, since for a time they are completely hidden away from the external attacks of their enemies. Thrips come to our trees in such numbers, so suddenly, and feed so rapidly that none of the present beneficial forms can prove an effective check.

* * *

Attack Them in the Ground.—From the foregoing it might seem an almost hopeless task to check the ravages of thrips either by natural or artificial means. From the life habits it is seen that the insect spends the larger part of its life underneath the soil, and it seems to me that this is the time to attack it. After the larvae has reached full growth, as stated, it leaves the food plant and seeks a secluded place in the ground. The insect to get below cultivated soil follows natural openings, such as cracks or holes made by other insects or worms and reaching a secure depth, from three to twelve inches, usually from four to six, it hollows out a small cell on the side of the larger opening and securing itself it awaits further developments. It naturally expects to come out the same way by which it has entered. The insect has mouthparts such that it cannot eat its way out and having no claws cannot dig effectively. We think if the ground is so disturbed that these natural outlets are broken up or closed the insect must remain within and die. 'Tis true that many thrips get below the ordinary plowing and cultivating line, below four or five inches, but we think if the ground above is thoroughly worked, later rains will so run the soil together that an effective covering will be established. The manner of cultivation which most of us have fallen into fits in remarkably well to give our thrips a long undisturbed period or rest. During and after May, when thrips are in the ground we give the soil nothing but light cultivation and besides at this time they are still in the larval stage and if disturbed seek another place of hiding. After this no cultivation is done until the last of February or March and this is after the insects have left the ground.

* * *

Early and Deep Plowing.—From all of our observations and experience fall or winter plowing and working the soil seems to be the most rational way by which this insect can be controlled, at any rate other than this we have no effective remedy.

SELLING OF DRIED 'COTS.

The pressure brought on the fruit grower to sell his cured fruit before its best price can be secured is a factor which affects the market for the fruit for those who can and do hold. The poorer man in need of immediate funds often accepts a low price, which in turn depresses all prices. This is proving an embarrassing factor this year with apricot growers. With a light hold-over, it is reasonable to expect a fair price, but the buyer wants anything but a fair price and in some cases is offering 5 cents or less. Such price will not leave the grower living profit, but the buyers are better combiners and better stayers than are producers.

To overcome the greatest objection to growers waiting for better prices, the banks of San Jose are proposing to advance to holders of dried fruit, funds on fruits placed in warehouse. The Nurseryman says: "Where the same are in good condition and housed in a good warehouse, under insurance policy, they will advance up to say 4c per pound. This will make it possible for the grower who must have cash immediately to go to his bank and borrow the amount required, using his fruit as a basis for the credit.

Under this proposition of the banks, if the orchardists are not satisfied with the opening price offered for dried apricots, there is still a possibility of their getting the funds necessary for immediate needs, and retaining title to their fruit.

It would seem probable that this willingness on the part of the banks to make advances on the dried apricots will have the tendency to raise the opening price."

Regarding the crop in the Santa Clara valley:

The crop is probably the largest ever gathered in the valley. It is estimated at from 350 to 400 carloads of 40,000 pounds each. That stands for 16,000,000 pounds of fruit.

"This is an exceptional crop; but ordinarily we have a bumper crop about twice in five years. There is never an absolute failure, but other years the yield will be diminished. The total crop for the State this year is about 90 carloads. The output is larger than the original estimate, and it also runs to large sizes. The quality is fine and the dried product is more satisfactory than the average. The foreign demand is very healthy. Under such conditions the growers should make some money on their 'cots, and they will in my opinion, if they take a judicious course of action."

The fruit is yet largely in producers' hands.

CALLIEPHIALTES MESSER GRAVENHORST.

A beneficial insect which will accomplish as much as we hope of the codling moth parasite, is worthy a good big name, but it certainly looks as if scientists have gone a little too far with "Calliephialtes Messer Gravenhorst." We were just getting used to Ephialtes carbonarius, but now the other and larger and unpronouncable name is given and said to be the correct name of the parasite.

May the little black beauty live long and prosper and continue to make holes in the codling moth and if necessary to encourage its existence we may cut off some of that name.

MORE INSTRUCTORS AT CALIFORNIA POLYTECHNIC.

At a recent meeting of the Board of Trustees three new instructors were appointed for the next school year, beginning September 13. They are such good people and so strong in their separate lines that they will greatly strengthen the school.

Miss May Secrest is to be instructor in domestic science and matron of the dormitory. She is a graduate of the Kansas State College with the degree of B. S. She afterward pursued graduate work in the same college and also taught domestic art two years as an assistant to Miss Howell. In 1902 Miss Secrest was graduated from the course in domestic science at Teachers' College, New York. The following year she organized the department of domestic science and taught the course at Stephen's Point Normal School, Wisconsin. Since 1903 she has been associate professor of domestic art in the Ohio State University.

Leroy Burns Smith is to be instructor in English, history and economics He was graduated from Cornell University in 1901 with the degree of A. B. In August, 1903, Mr. Smith entered the University of California as a graduate student in the department of education. He was immediately made a reader in education by Dr. Brown, head of the department. In January, 1904, Mr. Smith left the University to accept the directorship of the educational work of the Young Men's Christian Association of San Francisco, from which position he resigned on July 1, 1905, to come to the Polytechnic.

Mr. Herman B. Waters is to be instructor in electricity and physics. He completed the electrical course, with the exception of a thesis, at the Montana State College of Agriculture and Mechanic Arts. The year of 1902-3 he spent at Cornell University taking the regular electrical work and was graduated with the degree of M. E. Since leaving Cornell he has been continuously in the employ of the Missouri River Power Co., at their Canyon Ferry station—a 10,000 H. P. hydraulic plant supplying the city of Helena with light and power.

The Dinuba Advocate is rejoicing over the prospect for abundant crops and fruits in California this year, and with lark-like cheerfulness sings the following merry song:

"Fifty-four cars of watermelons have been shipped from this station in the last sixteen days. Express shipments of green fruit and table grapes go out on every train. Dried fruit is coming in to the packing house. Dairymen have plenty of alfalfa, a good output of butter-fat and good prices. The wheat delivered here is equal to last year. These together with a successful handling of raisins and a market for wine grapes should put our farmers on easy street for the next twelve months."

The weather and crop conditions for the week ending July 24 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—The weather during the week was warm and clear in the interior and cool, cloudy and foggy in the coast districts. Field fires destroyed several hundred acres of grain and feed in Calaveras and Glenn counties, and forest fires caused great damage in Mendocino county.

Grain harvest is completed in some sections and progressing in others. The yield and quality of wheat, barley and oats are much below early estimates and in some places the grain is said to be not worth harvesting. The hay crop is very large in nearly all sections and the quality excellent. Hops are making fair progress, but the present outlook is not satisfactory. Beans are in bloom and give promise of a heavy crop. Sugar beet harvest continues. Corn is in good condition and there will be an average crop.

The midsummer varieties of deciduous fruits are ripening rapidly and fair crops are being gathered. Pears are yielding better than expected and plums are fully up to average. Peaches and prunes are light in some sections and fair in others. Grapes were somewhat injured by the recent hot weather, but still give indications of a large crop. Citrus fruits are in good condition.

Eureka Summary.—Farmers are in the midst of haying; crop never better. Oats are ripening and some fields are almost ready for harvest. Potatoes are poor; other vegetables are doing well. Apples will be about an average crop. Grass in the interior is drying rapidly.

Los Angeles Summary.—Corn and beans are looking better than last year, but the weather is unfavorable for drying fruit. Oranges are dropping some. Beemen are busy slinging the second honey crop; the yield is heavy and quality fine.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.
When writing advertisers mention Cultivator.

We Can Save You More Money
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping
J. L. BERRY SUPPLY CO., Los Angeles, Cal.
Office; 304-305 Douglas Building
Phones; Home 2367; Sunset Red 2811
Shops and Yards: 860 North Main St.
Phones; Home 1088; Sunset Main 1088
When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

WHY SOME ORANGE GROWERS RECEIVE POOR PRICES.

I am very sure that every navel orange grower who is a reader of the Cultivator will read an article under the above heading.

Very frequently the grower lays the blame to over production, excessive freight rates, and icing charges, and bad management of those in charge of the packing houses. In very many cases the grower is confident that it is due to the methods of marketing and argues that a system of universal f. o. b. sales would be the panacea for all the ills of the orange industry of our State. Some things affecting returns are:

1. Off sizes, due to a poor setting of oranges, resulting in large sizes, discounted by the eastern trade.
2. Puffing of oranges; resulting in lowering the grade and carrying qualities.
3. Early dropping of oranges, due to climatic conditions and improper culture.
4. Careless picking, giving long stems and clipper cuts, causing decay.
5. Excessive freight rates and icing charges.
6. Careless, rough handling of the fruit.
7. Poor carrying qualities, due to improper culture and fertilization.
8. Black scale with undue draft on the vitality of the tree and decay from washing and extra handling.
9. Poor packing and grading.
10. Coarse, inferior fruit, due to improper culture and fertilization or soil conditions.

* * *

There may be other reasons, but these are enough for a starter, I will frankly admit that I was surprised at the long list of good reasons why navel oranges of the season just closed did not give better returns to the grower. In the matter of culture, handling and marketing of citrus fruits we have four striking object lessons in the case of Mr. Mills, of the Arlington Heights orchards of Riverside county, C. C. Chapman of Fullerton, Mr. Leffingwell of Whittier and Mr. Teague of Santa Paula. In these we have instances of correct culture and handling of the lemon and orange crop for market, due to intelligent management of large orchard holdings, which has resulted in good returns to the owners. On the other hand we have the great mass of small growers that market their crop through associations, of the exchanges and various other organizations. These small holdings make up a medley of ways and means in culture and handlings, with corresponding results. The membership of an association, dissatisfied with the returns for fruit, frequently lays the blame for this to overproduction, excessive freight rates and mismanagement of the packing house manager or foreman.

I would recommend every citrus fruit grower who reads this article to carefully scan the ten reasons given why the citrus fruit crop of California does not give better returns to the grower and see whether any of the fault lies in the individual. The question that naturally arises is, where does the principal fault lie, in the continued improper culture, mismanagement and improper handling at the packing house, or the excessive rates for freight and icing. My answer to this very important question is in three words. "With the grower." From what I personally know of the average citrus fruit grower I can easily imagine that there will be a strong protest against accepting this answer to the question.

Now let us divide the question into three sections: Excessive freight rates, mismanagement of packing house, and improper culture. Now as to item No. 1: The President of the United States has declared in favor of granting to the Inter-State Commerce Commission the power to fix and establish freight rates.

Have the citrus fruit growers backed up and supported the President's policy with energetic and well organized effort? No. Has there been an effort made to organize the various branches of fruit growing and agricultural interests of the State and country at large? No. Has there been any decided effort to unite the citrus, raisin, prune, fresh fruits and vegetable interests of the State to secure the much desired amendment to the Inter-State Commerce act? No. Has there been an organized effort to unite the grain, stock, dairy and fruit interests of the country in concentrated movement to influence legislators to support the policy of the President? No.

The Inter-State Commerce Commission has declared in favor of reduced freight rates on citrus fruits, but it has no power to enforce the decision. It is true the California Fruit Exchange has passed resolutions in support of the President's policy of giving to the Inter-State Commerce Commission the power to fix and establish freight rates, and has sent these resolutions to the various associations of the exchange with request that they pass similar resolutions. The exchange, however, represents only one half of the output of the citrus orchards of California. Already the agents of the railway corporations are approaching business men and the officials of various organizations to secure support in opposition to the proposed amendment.

The present conditions are favorable for us to secure the desired legislation. President Roosevelt, with his fearless independence of character, brings to bear the whole power of the present administration and we, failing to actively co-operate, will let an opportunity pass that may never come again. The agricultural press of the whole country should strive to arouse public sentiment in behalf of the proposed measure for relief. Failing to act, the citrus fruit grower can blame no one but himself for a probable continuation of the present rates for freight to eastern markets.

Now as to possible mismanagement at the packing house: In the exchange association the membership annually elect the board of directors which elects the president and secretary and appoints a manager. The duty of the board is to see that the affairs of the association are properly managed and the membership of the association should hold the members of the board responsible for the proper conduct of the affairs of the organization. Failing to do this the individual grower is responsible for the continued mismanagement of the affairs of the association. From personal interviews with the managers of different associations under the exchange, I learn that the managers' greatest trial is the quality and condition of the fruit as it is delivered at the packing house. The individual grower will deliver fruit at the packing house with long stems or clipper cuts, in some instances puffed, of inferior carrying qualities; rough, coarse fruit covered with smut from the black scale or off sizes, and then complain because he, the grower, did not get better returns for his fruit.

In many associations an effort is made by grading extra choice and extra fancy to give the grower of the better quality of fruit returns in proportion to quality. But long stems, clipper cuts, and fruit with poor carrying qualities or fruit roughly handled, or smutty fruit that will require the extra handling of washing, will largely augment the sum total of decay of the fruit of the association and this loss must be proportionately borne by all.

The remedy for this state of affairs is for the growers of sound fruit, properly picked and handled, to demand better culture and careful handling on the part of all whose fruit is pooled with theirs. The time is coming when associations of growers will have to enforce proper culture, clean fruit and careful picking and handling of all fruit. In some cases this plan is now being carried out, that is, that only fruit from well cared for orchards are admitted to the association pool. The advantage of the large grower who packs his own fruit is, that he has full control of the orchard culture, picking, handling and packing of the fruit.

The reports of the condition of oranges on arrival in eastern markets during the season past show a percentage of decay that has materially lowered the average returns for the whole crop. It is my belief that a large percentage of this loss by decay can be prevented.

DO ORANGES PAY?

Editor Cultivator: Some orchardists say yes, some say no. The farmer who got his returns for oranges in red ink, sadly answers in the negative. There are several elements that determine results. The farmer, the soil, the season, the market, the commission merchant, the business capacity of the grower and, last, but not least, the railroad.

The Valencia is rapidly coming into favor. Many orchards are being budded over. This tree is generally considered a "shy" bearer, but farmers are coming to see that if they can realize $2.00 net one in two years, it is better than 50 cents every year. So hundreds of acres are being budded to Valencias. Mr. Isaac Overholtzer, of Covina, received last year $5000 from about five acres of Valencias. It is said that $1500 an acre has been realized from this orange. Some of the land in this thriving section is peculiarly adapted to this fruit.—O., Covina.

Expert Budding

I am prepared to bud small or large citrus trees.

G. O. HESLOP, Manager, Lamanda, Cal.

When writing advertisers mention Cultivator.

FUMIGATING OUTFIT FOR SALE

Consisting of 32 Sheet Tents and 26 Hoop or Bell Tents, 1 drum of Sulphuric Acid, 150 lbs. Cyanide of Potassium, one Supply Wagon and other necessary articles to make the outfit complete. All tents in good condition. The outfit must be sold at once. Make me an offer. For particulars address

A. ARONS
113 S. Main St. Los Angeles, Cal.

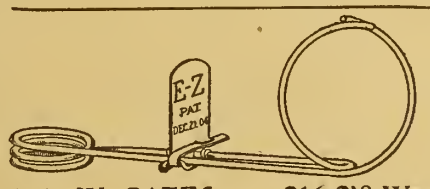
When writing advertisers mention Cultivator.

20,000 Orange and Lemon TREES

Strictly First-Class

Pollard Bros.
ALHAMBRA, CAL.

When writing advertisers mention Cultivator.



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Hoegee's Handsome Hammocks

ORDER BY MAIL

1-3 OFF THE REGULAR PRICE

We shall carry no Hammocks over

We Manufacture
Irrigation Hose
Tents and Awnings
Khaki Clothing
Stack Covers
Fruit Picking Bags

THE WM. H. HOEGEE CO., Inc.
PHONES—EX'S 87
138-142 So. Main St. Los Angeles, Cal.

Send for Catalogues

When writing advertisers mention Cultivator.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

CHRYSANTHEMUMS.

During July all chrysanthemums should be cut back; even now it is not too late. If your plants have not been so treated, you will probably get flowers before the hot weather is over and they will be small. If cut back now and given plenty of food and drink there is time enough to produce flowers of the first water for October.

As the plants grow up they should be staked and tied, one stalk or stem to a stake. The 'mums on the farm usually do not grow so tall but stakes from split shakes will be high enough

Autumn's Floral Queen.

With the grower some sorts often run up to eight feet, but this is not general and is almost inexcusable. Plants should be tied with raffia, procurable at any seed store, or with strips of cloth torn into quarter inch widths.

No good results can be obtained without disbudding. All the buds except the few on top which you wish to flower should be removed. This is easily accomplished as soon as the lower buds show by "rubbing" them out with the finger tips, as they are very brittle. Growers recognize two kinds of buds: Terminal, and crown. These terms are easily understood, the one large bud which first comes, at the end of each shoot is the crown bud; the secondary ones are the terminal buds, of which several surround the crown. In the early sorts it is best to use the crown buds.

The crown buds will begin to show in August, though in fact on some varieties they are formed at any time during the summer, but the crown buds, if taken before August 25, are liable to produce imperfect flowers. A crown bud may be distinguished when young by the buds directly below or surrounding it being growth buds. If these growth buds are not taken off they will produce new shoots, and the crown bud will dry up, it being really an abortive flower bud, and would never produce a flower without the kindly aid of the grower. These crown buds, being produced fully two weeks before the terminal buds begin to appear, if taken, they will produce flowers two weeks earlier than if terminals had been taken.

For midseason and late varieties, it is just as well to take the terminal buds. They appear in a cluster, and are all flower buds. These are the buds that are usually taken. It is more work to disbud these, as new buds are continually forming, and the plants have to be gone over several times. When the crown bud is taken, no buds are formed under it, and if all side shoots are brushed off they will require but one disbudding. Then the leaves begin to assume a dark, leathery appearance, and you may know all the strength of the plant is being concentrated in the flower, and it is likely to be a good one.

Keep the plants fairly well watered at present and feed lightly, but so soon as the first buds appear, feed heavily. Usually you may get plenty of good stable manure on the farm, and nothing is better for general feeding. As growth continues, feed more and more. If you wish to get unusual results, feed a small quantity of bone meal twice a week, worked into the soil around base of plant. This feeding must stop when the buds show color or you will "burn" the buds. Heavy watering must continue until the flowering season is over.

The best philosophy—a contented mind.

FLOWERS ON THE FARM.

There are few things that mark the progress of civilization more than a correct taste in architecture and gardening. So long as men are indifferent to the appearance of the house they live in, and the grounds that surround it, they will rarely exhibit a true taste for anything else. We are happy in the belief that our farmers are gradually improving in this respect. As intelligence and wealth increase, so do refinement and good taste.

The love of flowers and the cultivation of them is an evidence that true and pure sentiments are in the heart; that a love for the beautiful has dawned there, and that the elements of progress are at work. The scenes and circumstances by which we are surrounded have much to do, not only with our character, but with our happiness. On this account we should do all in our power to make our homes attractive; to adorn them with those charms which good sense and refinement so easily impart to them. It costs little to surround our homes with these simple beauties that delight the eye far more than expensive objects. Nature delights in beauty; she loves to brighten the landscape and make it agreeable to the eye; she hangs the ivy around the ruin, and over the stump of the withered tree twines the graceful vine.

The care and culture of flowers elevate and purify the mind, and give the dusty walks of life many a charm that cannot be found where they are wanting. They have a refining influence on children, tending to soften and polish their manners, and to inspire them with cheerful views of life.

It is a law of our being that we become attached to those objects upon which we have bestowed labor, and on which we are expending care. We love the trees our own hands have planted, the vines we have cultivated and trained over our doorways, and over the trellis our own hands have constructed.

Cultivated flowers are evidences of high civilization; they are a sort of floral thermometer, indicating in some degree the intelligence and refinement of the people; and their indications are as significant as are the evidences afforded by architecture, painting, poetry, or any of the sciences. The lessons of these gentle teachers are having an influence on the habits and manners of our people.

There is scarcely a farm house now but has its flowers. They give a pleasant and cheerful aspect to the homestead, and attract the grateful admiration of the passing traveler. Their almost universal cultivation indicates a refined taste and higher intellectual attainments. Such evidences of improvement are full of promise for the future. The thriving occupants of residences in the vicinity of all our larger towns and cities are doing much by their example to stimulate the farmers in this direction. The creation of beauty which wealth and taste have produced, attract their attention, awaken in them the love of the beautiful, and lead them to attempt their reproduction on a cheaper and simpler scale.

Where there are flowers you will see more order about the buildings, an air of tidiness, thrift and comfort, and better farming generally; and in the dwellings the families are more intelligent, comparatively refined, and not unfrequently imaginative and poetical. Strange as the assertion may sound to some, it is nevertheless true, that if these last two qualities were more generally prevalent and cultivated on the farm they would tend to keep thousands of farmers' sons and daughters from deserting the old homesteads.

The cultivation of flowers and a better knowledge of them will not only have a happy, but an enduring influence. It will affect the character of farms and homes. Instead of unenclosed dooryards, where stray cattle and gabbling geese are at home, and old wheels and rambling woodpiles skirt the house in dire confusion, while huge dogs guard the doubtful way to the door, there will be a spot sacred to "fruits and blossoms that blush in social sweetness on the self-same bough." These will not only attract and please the traveler but will give the country house an advanced money value.

CAULIFLOWER SEEDS
$1.50 PER OUNCE
DIRECT FROM GROWER IN DENMARK
AMERICAN ADDRESS KARL KOLLE, 1234 N. 50 AV. CHICAGO

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS.
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

CONSTRUCTING CEMENT FLOORS.

The sub-grade of the floor, or the height of the earth below the floor, must be about one foot below the proposed level of the finished floor. When the ground has been excavated or graded to the desired height or depth a filling should be made of either cinders or sand (preferably the former because cheaper) thoroughly tamped or rammed to a uniform thickness of six inches. If necessary, water may be added to assist in compacting the underfilling of cinders. After this is done the concrete to a depth of five inches is put on, prepared as follows.

You may use any standard brand of Portland cement and to one part of cement add seven parts of gravel made up of good, coarse, sharp sand and pebbles up to two inches in diameter. Spread the gravel on a platform to an even depth of a few inches and upon this spread the cement evenly with shovels. Then work the cement thoroughly into the gravel by turning the two together several times until the whole is of a uniform color. To this mixture add enough water to make it easily handled and so it will quake under the tamper and the water flush to the surface, when tamping is complete. Do not wet the mixture until ready to use it and the suggestion is made to have it in place and tamped in one hour after wetting. The mixture must be turned several times after the water is added to make it evenly wet. The concrete is put in place in sections five inches deep and six feet wide crossways of the stable floor. Commencing at one end, place a board five inches high six feet from the end and fill the section to the full depth as you go along. When one section is filled and thoroughly tamped until it quakes move your board ahead six feet and fill in the fresh space. Sections may be less than six feet wide, but should not be more. When the concrete is in place and is still green, or has set for twenty-four hours, you are ready to put on the skim coat. This is made up of sand and cement in the proportion of two sand to one of cement, mixed to a good, even mortar, spread on with plasterer's trowel to the depth of one inch and finish smooth like a cement sidewalk. Make no effort to give the concrete a smooth finish, for the cement coat gets a much better bond on a rough surface. A good way to roughen the surface for the skim coat is to walk around on your heels while the concrete is being tamped into place, but on no account disturb it after setting has begun, or you will spoil it by preventing further setting. In putting on skim coat use a one-inch strip and apply mortar as thick as a strip.

After the skim coat is on and smoothed down it must be roughened to prevent stock from slipping. This is done as follows: To a piece of six-inch planed board, one foot long, fasten with small finishing nails triangular shaped strips as long as the width of the board, one-fourth of an inch deep and one-fourth of an inch wide at the base, spacing them about two inches apart. At one edge of the board the strips are beveled off at a good angle so that they will not catch the cement when the corrugations are made. When the "corrugator" is made draw across the freshly troweled surface coat and the strips will cut ditches one-fourth of an inch deep and one-fourth of an inch wide at the top, which will make a surface sufficiently rough to prevent the floor being at all slippery.

There are, perhaps, some general things that could be suggested and among them that the floor may be sloped a trifle so that no liquids will run under the feet of the stock. Just at the back edge of the stall you may put in a gutter that slopes each way from the middle to a drain previously put in under the floor foundation, or it may run the whole length from one end if the stable is short. It may be necessary to put in two or even three drain pipes if the stable is long and this would make the gutters short and shallow, which is more desirable. —Iowa Homestead.

RANGE OF WHEAT.

From the study of many facts connected with the growth of wheat in temperate and tropical climates, we are led to believe that in the United States the only positive limit to its cultivation on the south is the northern bounds of humid tropical heats, while on the north it may be grown to the utmost northern extremity of Maine, latitude 47 degrees, 30 minutes, where the mean temperature for May, June and July is but 56.11 degrees, and that for the warmest month, July, 62.30 degrees Fahrenheit. The northern boundaries of the United States are, however, by no means the northern limit of its culture. Wheat is grown on the Saskatchewan river, in the territories of the Hudson Bay Company, near Lake Winnipeg, in latitude 54 degrees north, where the months of May, June and July have a mean temperature of 57.11 degrees, and July enjoys a mean of 61.8 degrees.

On the plains of Bogota, where the temperature rarely exceeds 59 degrees, wheat is reaped in 147 days, having been sown in February and harvested the last week of July, the mean temperature for the entire period having been 58 degrees and 59 degrees. At Quinchuqui the vegetation of wheat begins in February and ends in July, at a mean temperature of between 57 and 58 degrees Fahrenheit. In England, the summer of 1853 was in many places at too low a temperature to ripen wheat, and the deficiency was general, and said to have been from one-third to one-half of the usual product. The mean for the months of July and August were 57 and 59 degrees, respectively, or two degrees below the usual average. From the above comparison of data it appears that wheat cannot be successfully grown where the warmest month of its growth, or that wherein the grain is maturing, falls below 60 degrees, or the mean of its period of growth below 56 degrees.

At Sitka, in Alaska, latitude 57 degrees, the mean of 39.7 degrees for the year has been observed, and a summer mean of 51.5 degrees, yet wheat will not ripen, because the warmest month reaches but to 59 degrees Fahrenheit, though two months were maintained at nearly this mean heat through ten years of observations.

CLIMATIC INFLUENCE.

While the most important climatic influence is temperature, the climate that would result from latitude alone is greatly modified by the presence or absence of extended sheets of water; and the distribution of heat through the year, from any place whatever, depends essentially on its proximity to, or distance from, the ocean or large lakes, and the relative frequency of the winds that blow over them. The equalizing influence of large bodies of water, the temperature of which is less liable to sudden changes than the atmospheric air, is quite apparent. While in Ireland and the southwestern part of England the myrtle grows in the open air, as in Portugal, fearless of the cold of winter, the summer sun of these so genial isles does not succeed in perfectly ripening the plums and pears which grow and ripen well in the same latitude on the continent. On the coast of Cornwall shrubs as delicate as the camellia and orange are green throughout the year in the gardens, though in a latitude at which, in the interior of the continent of Europe, trees the most hardy can alone brave the winter cold. The mild climate of England cannot ripen the grape almost under the same parallel where are grown the wines of the Rhine, nor will our Indian corn ever mature or attain there the size it will reach on our most northern border or in Canada.

TO PROTECT TREES.

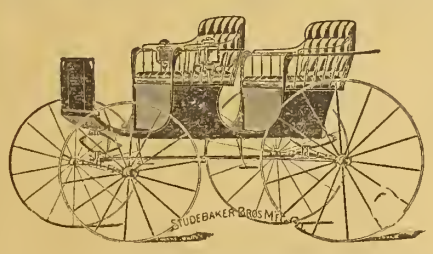
The following protects trees from rabbits and mice. Take milk fresh from the cow and add dry yellow ochre until it makes a thick paint, apply to the trunks of trees and lower limbs on the low headed trees, with a paint brush, being careful to get it well down to the ground. It will stop rabbits if applied even after they have begun to destroy the trees. Do not add oil of any kind to the above as it would fill the pores of the bark and injure, if not kill the trees.

The world's production of meat, since 1840, has increased fifty-seven per cent, and the production of grain four hundred and twenty per cent.

Your life is what you make it.

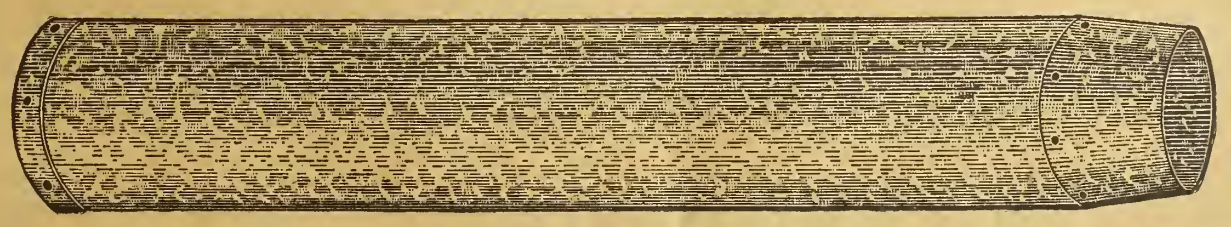
THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino
When writing advertisers mention Cultivator.

Light Weight Surreys



We have Surreys of every description. Write us for prices on the kind you want.

STUDEBAKER WAGON AGENCY
Wholesale and Retail Vehicles and Implements
NEWELL MATHEWS CO. 200 N. LOS ANGELES ST. LOS ANGELES, CAL.
When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE
Tallerday Manufacturing Co.
PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles
MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES
When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR
AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, July 28, 1905

CONTENTS.

	Page.
To Control Thrips	75
News Notes from Florida	76
Peach Planting in Georgia	76
Beekeeping for Beginners	77
Selling Dried 'Cots	78
Climate and Crop Report	78
Price of Oranges	79
Chrysanthemums	80
Flowers on the Farm	80
Constructing Cement Floors	81
Range of Wheat	81
Editorial	82
Coast News Notes	83
Ensilage as Dairy Feed	84
Lice on Animals	86
Flies from Cattle	86
Forcing the Moult	87
Poultry Question Box	90
Queries and Communications	91
Household	92-93
Business Notes	94
Markets	94-95

Shams Going.—We don't know but our readers think the Cultivator pessimistic, because it treats of living issues in a somewhat ungloved manner, stating its opinion of things, as it would like to see them changed, where it believes they need changing.

But with all the upheavals in public mens' lives, and all the exposures in business affairs we are of the opinion that good will result. This old world is not going to the bowwows in one grand convulsion. It will right itself by and by, and come out all the cleaner and better by the shaking up it has received. The war between Russia and Japan, while terrible in its bloodshed and loss of treasure, will make of Russia a new nation, in which liberty will be granted the serfs and new impetus be given to every avenue of business and condition of life. The exposure and punishment of some of our well known men for dishonesty in public affairs will serve as a lasting warning to others to "get busy" along legitimate lines and cease their unholy attempts to get rich at the expense of their honor and the pockets of their constituents. The insurance world is just beginning to get its legitimate deserts for the evils which have grown up under its system. Before the public is through with it half the old managers of most of the companies will be retired from business, and the other half will be studying the language of some far away country, where no extradition treaty exists, or pacing the cells of some state penitentiary here in the United States. The beef trust will be bursted, and the combines will be seeking to get from under as fast as they can devise ways and means to do.

The plain truth is, the people have become aroused, and woe unto the evil doers because of the wrath of the injured. The great American public has been fooled a long time, but not all of it, and now that the whole country is afire, look well to the evil. The New York Sun, in an editorial on the shams of the day, says well and truly:

"The exposure of wrongdoing was never more persistent or relentless. Not the wrongdoing, but the exposure as a moral measure is the basis of moral hope.

"They have been turned on by the public demand. The demand has come from an honest public. It has been uttered through honest men and honest newspapers. The 'ado' is health. The fact that it prevails is a demonstration of honesty. The fact that it is bound to win involves the triumph of honesty. The fact that a few of the wicked and more of the weak are thrown down and run over is a tribute to inexorable integrity and to the vivid intelligence of the people at large and of journalism, and of reformers who are representing the people.

"Old-fashioned honesty is in the ascendant. Old-fashioned scorn of dishonesty and contempt for purchased power, purchased conspicuity, purchased praise, purchased immunity are abundantly attested. There should be contempt for the wicked, pity for the weak, charity for all, but justice also for all to the limit."

The Cultivator has faith in the judgment of the people, in the end. We shall have some trouble with dissatisfied labor agitators, we may see some blood shed in the great alien cities of the country, but finally these troubles will pass away, a better understanding obtain between employer and employee, honesty come back in business, and the world go forward to greater and grander things.

* * *

Antics of the Beef Trust—The Federal grand jury which found indictments against the leading packers of Chicago for alleged violation of the Sherman anti-trust law, is said to have spent more time on the examination of these cases than any other cases ever brought before a Federal jury.

They summoned leading agents of the big houses, from one end of the country to the other, took testimony in depositions and so framed the indictments as to cover all the points of the statutes violated. Notwithstanding the alertness of the government officers, however, there is danger that the indicted parties may escape their deserts, for they are prepariug to throw numerous legal obstacles in the way of the prosecution of the cases, one of which it is asserted wil be an application for an injunction to prevent the proof of any violation of law. The ground for this somewhat novel contention is that since the packing companies are acting under a permanent writ of injunction issued by Judge Grosscup that any further action should be confined to contempt proceedings an dthat criminal prosecutions are barred.

The result of the trials of the members of the beef trust will be watched with interest, for it is well understood that no obstacle will be left by the combine, whose future liberty from fine and imprisonment, or both, depends on their ability to escape the clutches of the law. The officers of the government must be exceedingly adorit or the indictments will be without avail.

* * *

Campaign for Pure Milk.—The efforts of the Board of Health of the city of Los Angeles to renovate the dairies, so that only pure milk shall be sold within the city is commendable. The only regret is that its power does not extend throughout the county, so that every dairyman, or every individual selling milk, cannot be held responsible to its rules.

It goes without saying that gross carelessness is frequently manifest in the smaller dairies of the county, as well as in the larger ones, which supply in quantity milk to the city trade. If the campaign which the city health department has inaugurated against infected milk will only extend to the country, it will not be long until Los Angeles county will gain the reputation of having the cleanest dairies and the purest milk supply of any county on the Pacific Coast. There is not the least doubt in the world that infected milk causes more deaths in children from intestinal troubles, like cholera infantum and dysentery, than any other single cause, and more deaths from typhoid fever in grown people than the public realize.

It is therefore of first importance to the health of the community that we have pure milk, and the efforts of the health board to secure it is deserving of commendation. Of course, there are many big supply houses where the greatest caution always exists; these are not affected by the crusade of the officers of the health department, but the careless dairyman who disregards the rules of health, and thereby spreads disease from his milk, should be made to comply with the rules governing the care of cows and milk, or he should not be permitted to dispose of his product.

There are a few simple rules which, if he would follow, would render him practically immune from the charge of unsanitary conditions and from the danger of selling infected milk. These rules may be summarized in brief:

Thoroughly clean the corrals, night and morning, cart off all manure, so that cows may not lie down in it. If the cows are stanchioned, the floor, which ought to be tight, or of cement, should be so made as to carry off the urine with the droppings. Urine will attract flies in greater numbers than manure and both will breed bacteria second only to warm milk when left exposed to the action of the sun and flies. Corrals, sheds and barns where cows are kept, should be treated to whitewash frequently. Slacked lime lightly sprinkled on clean sand ought often to be spread in inclosures where milk cows lie, in order to keep the ground in a healthy, absorbent condition. The dairyman may think these suggestions entail too much labor, but if he will try them carefully, he will note the healthy condition of his herd and the increase in its milk flow.

In this same connection, it is well to observe that the udder of the cow should never be washed just before milking. Always wash and wipe dry a half hour previous to milking, so that no dirt can attach to the bag to be pulled into the pail. Some dairymen prefer to brush the udder before beginning to milk, but as this sometimes induces nervousness in the cow, best authorities discourage the use of the brush.

There are also a few simple rules for the care of milk which should be imperatively followed if quick souring is to be avoided. Thoroughly cool the milk in the cans by setting in a trough of water from a half to three-quarters of an hour. If the cans have been well scalded in a solution of sal soda and thoroughly rinsed and kept tightly covered from the air and then cooled by placing them in a water trough, milk will keep sweet from 12 to 24 hours longer than it does where these suggestions do not obtain. The Los Angeles Board of Health recommends that every bucket of milk shall be strained into a container to avoid the danger of flies coming in contact with the milk. The recommendation is also made that straining shall be done in a room from which flies are excluded and that every utensil used about the milk shall be made absolutely clean. Cooling milk before delivery is of the greatest necessity, because it lessens the liability of gas forming and bacteria developing in the cans, which, of course, are shaken in the delivery wagons and the milk thereby disturbed. If milk sours over night the fault in in the use of dirty utensils and the customer should report the deliveryman to the health board in order that an inspector may be sent to that dairy to correct the neglect.

We cannot be too careful about our milk supply. Too often it is the food of children whose sensitive stomachs absorb the poison in the fluid and who die as the result of careless and unsanitary conditions of the dairy. We would not recommend widespread publication of those whom the Board of Health are compelled to punish, for the reason that a scare over milk supply will injure the dairy business in general, but we would suggest that the Board of Health insist, with rigid impartiality, on every dairy which supplies milk to the city, observing strictly the rules governing sanitary conditions about the place, in the buildings and in the care of the milk. Only by so doing will the public enjoy immunity from diseases which find their origin in the milk we drink.

* * *

Looking for Results.—The whole State is looking forward with interest to the National Irrigation Congress, which will be held in Portland, Oregon, from the 21st to the 24th of August.

It promises well. The circular sent out, detailing its work, forecasts a program of much merit. There will be five distinct sections, with a specialist in charge of each section, and each one will endeavor to bring out the best and most reliable information it can obtain on irrigation matters. Reinforcing its study with so much of practical irrigation display as may be afforded by the means at command. The government will have a display on the exposition grounds which will demonstrate the operation of reclamation work to date, and this alone will be of such general interest as to command wide spread attention from all interested in this branch of the general irrigation work. Taking the congress, as a whole, the public may expect beneficial results from its deliberations, and the irrigation movement receive a valuable impetus all along the line.

NEWS OF COUNTRY LIE IN THE GOLDEN WEST

HORTICULTURE.

Prune buyers are reported in the Pajaro valley, and the sale of the crop on the trees has begun.

The California fruit distributors started sixty-two carloads of fruit to the east last Thursday.

The apricot crop in the Pajaro valley, for this year, is estimated at 500 tons of green fruit, making about 100 tons of dried fruit.

The olive crop in Santa Barbara county promises to be one of the largest that has been gathered there for several years past.

Indications now point to the largest apple crop in the history of the Pajaro valley. Three thousand car loads is the estimate for this season.

The assessor's returns from Riverside county show that there are a total of 1,353,911 orange trees and over 125,000 lemon trees in that county.

The total number of carloads of fruit shipped at Vacaville so far in the season, ending July 20th, amounted to 493 cars, as against 269 at same date last year.

The warm weather is causing fruit to ripen vrey rapidly about Chico and the cannery there is running full-handed from dawn to dark to handle the crop.

The stockholders of the Highlands Orange Growers' Association, at a meeting last week, decided unanimously to rejoin the Southern California Fruit Exchange.

The walnut crop of Southern California is now estimated to be 25 per cent short. The shortage is caused by the backward spring. Very little injury is reported from blight.

San Bernardino county has authorized the horticultural commission to expend a sum, not to exceed $3000, for new tents for fumigating trees and new spraying machines.

Only about 12 tons of cherries were shipped out of the Yucaipe valley this season, which is but a small fraction of the usual crop, however, good prices were received, which will help out the growers.

Peaches are being shipped from the north to G. H. Waters, at the Pomona cannery. Mr. Waters will receive 400 tons during the season. That cannery employs about 500 hands during the busy season.

The Sonoma County Farmer reports that the prune crop of the Healdsburg section, which is estimated at three hundred tons, has been sold at $40 a ton, cured. The crop is small and runs to large sizes.

A fancy price was received for a car of lemons sold at Boston, Monday of last week, which is perhaps the highest price received so far this year. A car of 364 boxes from Highlands sold for $2017, gross.

It is announced that the Golden State Packing Co. will, during the coming year, erect one of the largest canning establishments at Yuba City of any in that part of the State. It is stated that $1,000,000 is back of the enterprise.

J. A. Cover, of Modesto, has placed an order for several thousand grafts of English walnuts with a Rincon grower. He will try the experiment of grafting the soft shell walnut into the wild stock and endeavor to raise the marketable variety.

M. B. Waite, government pathologist from Washington, is expected to visit California shortly to confer with Professor Smith of the University of California, and a campaign will be planned against the pear blight, to be put into effect next winter.

A new company has been formed at Riverside by Messrs. Frank Cuttle, W. W. Wilson, George Frost, Frank F. Chase and F. P. Chase, to be known as the California Orange Co. One hundred and sixty-three acres of first-class orange land south of Bloomington have been secured and will be planted to oranges. Irrigation wells and cement pipe are being put in to irrigate the tract.

AGRICULTURE.

It is stated that the farmers in the Imperial valley will ship 400,000 sacks of barley this season.

The recent hot spell in this State was a benefit to the sugar beet and bean crop on irrigated lands.

The potato crop around Watsonville, San Jose, Gilroy and Hollister is reported very abundant and of excellent quality.

Exceedingly hot weather prevailed at Yakima, Washington, last week, causing late sown grain to be badly damaged.

Twenty-five hundred sacks of wheat are being received daily at Guernsey, from the great wheat fields in the lake country, Tulare county.

Fresno growers are now harvesting the largest melon crop ever grown in that county. Prices are reported low, running from $10 to $14 per ton.

An experiment is being carried on at the Washington State Agricultural college to determine the possibilities of the potato starch industry in that State.

The ranchers living on the banks of the Santa Ana river, in Orange county, are having estimates for building levees to confine the river within its banks.

Eight threshing outfits are at work around Oxnard and so far the barley fields are turning out better than expected, some going as high as forty sacks per acre.

Last week the Exeter Sun issued its elegant midsummer number of twenty pages, descriptive of the fine agricultural and fruit section in the western part of Tulare county.

The barrier at Daguerre Point, in the Yuba river, has proved a success. A wide expanse of river bottom land will be reclaimed, which will support a large number of small farms, gardens and berry patches.

The canteloupe growers around Brawley met last week and organized an association. Peter P. Hovley was elected president. A. W. Applegate, vice-president, and F. H. Stanley, secretary and treasurer.

A San Francisco syndicate last week purchased five thousand acres of land on Sherman island in the Sacramento river, at a cost exceeding $80,000. The syndicate proposes going into the cultivation of asparagus on an extensive scale.

The hop yards in practically every district of Oregon show a worse condition than any were in during the mouldy year of 1897. Present conditions are very gloomy for the coming crop. One-half the crop may never be picked.

A new cannery, twice the size of the one recently destroyed, is to be built at Napa Junction and completed in time for next year's business. In addition to the cannery business the company will plant two hundred acres to asparagus.

The U. S. Department of Agriculture asks San Diego to furnish it with five acres of land with free water for fifteen years, on which to experiment with spineless cactus, to find what species is best adapted to the hills and valleys of Southern California as a stock food.

The hop growers of Oregon, who recently organized into an association and controlling the output of over two-thirds of the Oregon acreage, now ask the California growers to combine under the same conditions and become affiliated with a movement to handle the crop and control the prices of the entire output of the coast.

LIVE STOCK.

B. Schuler has recently commenced the erection of a new cheese factory near Galt.

A movement is on foot to start a co-operative creamery at Occidental, Sonoma county.

The Buena Park condensed milk factory shipped two cars of cream this week. The capacity of the factory is now eight hundred cases a day.

M. E. Nicholson, of Mendocino county, sheared 534 head of sheep and had 2702 pounds of wool, all first class. Over five pounds of wool per head is a good clip.

Sheep owners around Yuba City have commenced the fall shearing. Reports are that the clip is good and the present price from twenty to twenty-two and a half cents per pound.

Dr. H. S. Warren Johnson has established a goat farm near Los Gatos, California, and has now fifteen milkers. Among them are some fine imported stock, one from the island of Malta, which is valued at $150.

MISCELLANEOUS.

Ferndale fair, in Humboldt county, will open September 5th and close on the 9th.

The assessment of Orange county this year was $13,332,000, which shows a gain of $304,000 over last year.

Three new instructors have been appointed for the next year for the State Polytechnic school at San Luis Obispo.

This year's assessment of Alameda county shows a net gain in value of $9,202,000 against that of last year.

The assessment roll of Tehama county shows a total valuation of $10,908,000, which is a substantial gain over last year.

The streams around San Bernardino were stocked with 120,000 fish from the State fish hatcheries at Sisson, last week.

The Native Sons of Marysville will make the attempt to gather one of the best exhibits ever placed by Yuba county, at the coming State Fair.

The sockeye salmon are reported in great numbers in Washington streams this summer and all canneries have all the fish they can handle.

The American Pomological Society meeting has been postponed from August 8th-10th, to September 19th-21st, and will be held at Kansas City, Mo.

No district fair will be held at Fresno this fall, owing to the cutting off of the appropriation of $2000 from the State by the legislature last winter.

The State Grange of California will hold a three day's session, commencing Tuesday, October 3d, at Napa. There are now forty-eight granges in the State.

The local grange, the county board of supervisors and the board of trade at Hanford have all joined in asking the State to continue the Tulare experimental farm.

The Macdonald ranch of seven hundred acres near Buena Park, Orange county, was sold last week to H. B. Allen of Pasadena, who will make extensive improvements.

At the next quarterly meeting of the Sacramento Valley Development Association the question of federal help for irrigation in the Sacramento valley will be the subject for discussion.

All of the Vail & Gates interest in the Chino Ranch and Town Co., consisting of about 600 acres of farming land, were sold last week to the new company now owning this vast tract.

A fire in the forest between Willets and Sherwood, in Mendocino county, last week, destroyed a lot of timber, besides many cords of four foot wood and several hundred cords of tan bark.

Work on the building of a new box factory was commenced at Anderson this week. Over 3,000,000 feet of lumber is now lying at Cottonwood, to be shipped to Anderson to be worked up.

The assessed valuation of Mendocino county is about $600,000 over last year. The total value of all property being $11,717,000. The footing shows 26,419 head of cows and calves; 97,050 sheep and lambs; 1769 Angora goats.

Another large electric power plant is in the course of erection at Silver Lake, Plumas county. A large dam at the outlet of the lake will cause a storage of many millions of gallons of water which will be used to supply power for the plant.

A tract of eighty acres has been purchased by the Arizona Fair Association near Phoenix for $9000. Great barns, and grand stand capable of seating two thousand people will be erected at once and the first fair will be opened in November.

The California Wine Association will hold a meeting on August 24th for the purpose of voting upon a proposition to create a bonded indebtedness of $2,000,000, the amount to be thus secured to be used to pay off present floating indebtedness.

At the Plant Introductory Garden at Chico, honey plants will be tested, bee diseases on the Pacific Coast will be investigated and other experiments with bees conducted. Among the varieties the Giant bee of India, and various specimens from the Philippines, will be experimented with.

Ensilage as a Dairy Feed

By Mrs. Minna E. Sherman, Fresno, Cal.

(Concluded.)

Good corn ensilage should be amber colored, and the greener feeds a little darker. It should smell like malt extract, and be sweet and slightly sticky. The corn on the rings of cobs tastes like corn fresh from the can, and with a little salt is quite palatable to the taste. In the tonnage produced by the different varieties of corn the difference is marked, and makes it difficult to estimate the actual cost of the ensilage. There are four varieties of corn grown from seed purchased in Chicago, which gives us much better results than the corn seed purchased in California. These are "Reed Yellow" and "Legal Tender" for July sowing, with either "Early Yellow Rose," or "Mortgage Lifter" for April sowing. With these corns we gain nearly a quarter more leafage and more tender, succulent stalks than with the common varieties.

We usually sow corn on the land that has furnished a hay crop and then been irrigated and plowed for corn which is planted in June, or as late as the Fourth of July. The corn is irrigated twice and cultivated enough to keep the weeds down. By the last of September it is ready for the silo. Three months from sowing, it is in the dough stage, so by sowing in succession, leaving ten days between, the entire crop can be put into the silos in exactly perfect condition.

The government, recognizing the great value of the corn plant, and that it was often sown from inferior seed at a loss to the producer, has taken up the study and pedigree of the corn family, and has already found how great is the difference in productiveness between seeds of the same variety from a careful grower and that of the ordinary commercial article. The experiments have also shown the food values to differ somewhat. Some grains with more than the usual amount of hard outsides or cuticle, were richer in protein; that having large grains gave a greater amount of corn oil, while the starchy center which carries the carbo-hydrates, varied even more than the size of the grains would indicate. The size and shape of the grains, their weight in proportion to the size of the cob, and the way the grains filled out the seeds, sometimes made one corn crop double the value of another—grown with the same amount of labor and expense. While there have been pioneers in this field, as yet the varieties or types have not been fixed long enough to be called families or races.

With good seed, we count on twenty to twenty-five acres planted to corn, filling the 318-ton silo. This is allowing also for careless irrigation and scalding. This acreage often furnishes more than the silo will hold, and we cure the surplus for fodder for the colts and stock cattle. The colts like it, and it seems to give them something they need of a woody nature, for they do not eat the fences so badly while the corn fodder lasts.

Sugar-beet pulp is often compared with corn ensilage and is nearly as good for milk making However, as it is not practical to move the dairy cows to the sugar factory, use of the pulp for feed must be left to the raisers of beef cattle.

The flint varieties of corn have nothing to recommend them for the silo, as they produce less leaves and stalks than the dent varieties, and are harder and tougher.

In ten years the number of silos in the United States has doubled and the average production of the cows has kept pace. The annual production of milk per cow has increased from 1400 to 2600 pounds. This is nearly doubling the production or equal to adding that many more cows.

The gain in making the corn into ensilage is in the fact that the cows receive it when at its best, neither too old and tough, nor when immature and green, but when it is best for succulency, palatability and food value.

Lately, the peas and oats we used to grow for silage, have been dropped from the ranch crops and the lands put into alfalfa, the first and last cuttings each season going into the silos, and the three or four summer cuttings made into hay. The first crop of alfalfa is full of fox-tail and bronco grass. To it are also added the grass clipped from the borders of driveways. When young and fresh, there is hardly a richer milk-making grass in California than the hated fox-tail. In the silo the fox-tail and bronco grasses are made tender and the vitality of their seed destroyed. It is a cheaper way to clean hay than discing the alfalfa fields, particularly for the vineyardist, for at the time of year the alfalfa needs discing every man and horse is wanted in the vineyards and orchards. As a matter of expense, it was therefore cheaper for us to silo the first crop than to disc the land; and grow alfalfa than to grow peas and oats.

On land foul with weeds, peas and oats for a winter cover, and corn as a cultivated crop during the summer, will in a few seasons discourage the undesirable growths—even Johnson grass and Morning Glory suffer under this double cropping. If the few spots that survive are marked with a stake and later cut off with a sharp hoe they seldom appear again, and the land is ready to be made into vineyard.

While corn ensilage in dry weather has a food value one-third as great as hay, yet to gain a greater milk flow we do not have to feed double the amount, for while 28 pounds of alfalfa hay with 8 pounds of straw is a ration, 35 pounds of corn ensilage with 8 pounds of alfalfa hay is a much better one for milk making.

Ensilage has as great succulency as green grass and produces a relatively greater flow of milk. It also agrees well with the cows. While the cows are eating the hay and straw ration, they are needing doses of salt and ginger almost daily. Every dose of these depleting medicines is wasting the food of several days' rations, so that at the end of the month, the loss of milk, the price of the salts and the time taken to give the dose, will use the product of one or more cows to compensate.

Ensilage is as near to preserving the natural food for the cows as we can make it; therefore they are healthier and thrive better than on the dried products of hay and grain. To their physical economy it is about the same as canned vegetables and fruits have proven to be to the human family. The matter of ensilage feeding has been discussed fully in the various dairy associations, and the conclusion has been reached that a well fed herd of cows will increase their productiveness from one-third to one-half, when ensilage is made part of the winter rations.

The entire waste of food in a well filled silo should be only the four or five inches of mould that seals the top. It keeps well—so well that we have had ten feet of new ensilage on top, a few feet of two year old, a layer of three year old and in the bottom of the silo the ensilage was four years old. The cows ate it all with as good relish as the fresh, and it seemed sweet and good to us. With us, ensilage has solved the problem of keeping cows on a limited amount of land.

Another soiling crop not half appreciated in California is sorghum. It can be planted at any time there is a lull in the spring or summer work. As soon as it makes a second joint, it can be cut for green feed, and will at once sprout out again; so a limited patch will supply a large amount of green food. It seems to lengthen out the summer feed and fills the time when the pastures have lost their freshness and the winter rains have not yet started the natural grasses.

Sharples TUBULAR CREAM SEPARATORS

WHICH DO YOU WANT?

Tubular or Bucket Bowl?
Simple Bowl or Complicated?
Izzers or Hasbeens?
Waist Low Can or Head High Can?
Self Oiling or Oil Yourself?
Wash 3 Minutes or Wash Thirty?
All the Butter or Most All?
Best Butter or Medium Butter?

Tubulars are different, very different. Just one Tubular—the Sharples. All others make bucket bowls—can't make Tubulars because they are patented. Ask for catalog Q-260.

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

HAY PRESSES LEAD
IN DURABILITY AND CAPACITY
OLDEST AND BEST KNOWN. MANY STYLES.
HORSE OR BELT POWER. GET PRICES AND TERMS.
KANSAS CITY HAY PRESS CO.,
No. 451 Mill St., Kansas City, Mo.

When writing advertisers mention Cultivator.

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA

THE BUFFALO
Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.

We manufacture BUCK RAKES, Stackers, Gang Plows, etc. Write or see us before buying.

We Have a Good Assortment of Second-Hand Presses on Hand Now

L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON 884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS

we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.

DE LAVAL DAIRY SUPPLY CO.

9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

When writing advertisers mention Cultivator.

It serves before we begin with the silage, to give a variety to the sows' food and stimulates appetite.

Sorghum grows readily over a wide range of soils and stands heat and drought. Its adaptability to California is indicated by its natural habitat, coming from the arid countries of Africa and Asia, where the grain is used for the human family, while the dried leaves and stalks are fed to cattle. There are nearly as many varieties of sorghum as there are of Indian corn, but as they have been introduced from different countries under foreign names, they are usually not called sorghum. The two families are the saccharine and the non-saccharine. The improved saccharine varieties are apt to have smaller leaf growth, and are therefore not so valuable for soiling as the older Chinese variety introduced into this country in 1855. This is the parent variety of the Early Amber and has proven to be the best with us.

The Kaffir Corn, a non-saccharine sorghum, has much to recommend it, though it sprouts less readily after cutting, and on sub-irrigated ground, grows so rank that it falls over and has to be cut by hand; though on very dry, sandy land, it will produce more grain than from the Early Amber or Egyptian corn.

The land intended for the sorghum should receive a plentiful irrigation and be well plowed and harrowed. The seed is drilled in rows, using about 35 pounds of seed to the acre. The harrow is run over the field when the sprouts begin to show. Usually two harrowings suffice, though the Early Amber sorghum roots deeply before it makes much top growth. The harrow should be used until the ground is shaded for there is little danger of sunburn even if the land is hard and runs together, though the best crops are raised on the more sandy soils. Sorghum will grow and mature on land having too much alkali for common corn, though of course the light loamy and white ash soils give the greatest tonnage.

When the plant comes into blossom, it is at its best for feeding and can be cut for green feeding or cured into hay. If it is used for hay, we find it has to be hauled off the land on which it is grown for lack of room to cure it. After lying on the ground twenty-four hours it is raked into piles about six feet square. In two or three days it will have sweated and heated and is then spread out again, and when cured —but not dried until brittle—it can be stacked without fear of spoiling.

Sorghum also makes a good sandwich by putting a foot of the green new-cut sorghum between six-inch layers of straw.

The third way of preserving it for winter feeding has been our practice. We cut when the seed is in the dough stage of ripening, hauling it to the place from which we intend to feed it. It is stacked, using the derrick fork and keeping the stack tall rather than broad and low, so that when completed it will be two or three times as high as it is broad. It is tramped on the outer edges and gradually brought to a pointed or ridged top. The regular 16-foot panels of shake roofing used on the hay stacks are placed on it, and old iron—parts of headers from the junk pile—put on the boards to keep them firmly pressed into place. The top of the stack may have a few loads of alfalfa hay put on top if it is not level enough to hold the roofing close to the sorghum. It cures well in this manner, remaining moist and succulent inside the stack and drying into hay on the outside. In using it for hay it is cut from one end, using a hay knife. It is valuable for winter feeding of the yearling heifers and colts on pasture as well as for the cows.

The sorghum field having been cut, now has the furrows plowed out between every row, and if well irrigated and harrowed, sprouts up again. If it was sown early enough, a second cutting may be had for hay, though usually after making one cutting, we cut it out every day and feed it out as a soiling crop.

The sorghum has small roots and the frost cuts it down promptly, and the land is ready to grow barley or wheat as soon as it rains; while Egyptian and Kaffir corn land requires labor to clean—the roots having to be thrown out with a plow and raked up as they never seem to rot, and will seriously interfere with the mowing of the next year's crop of hay if not taken out of the way. We have had them three years piled up before they were dried out enough to burn.

When we plant sorghum in April we can harvest three crops. The first cutting usually yields about five tons to the acre, the second about seven and the third cutting a little lighter; so fifteen tons of sorghum to the acre is a fair crop.

Sorghum must be fed in limited quantities until the cattle grow accustomed to it; otherwise it may cause bloating. It is never safe to use as pasture, for when the stock help themselves they can fill up too quickly. The necessity of beginning with small feeds applies to all the forms of sorghum, whether it is hay, sandwich, or from ensilage stock. Even after they have been eating freely for some time it is well to spread it from the wagon over considerable ground, so the animals have to pick it up in limited mouthfuls. As the amber cane contains a high per cent of carbo-hydrates, it feeds well with alfalfa hay. If that from the ensilage stack is used, fifteen pounds of alfalfa hay with all the sorghum the cows will eat up clean, will give a good yield of milk. If the cows leave the hay, reduce the sorghum until they eat their hay up clean, or they may scour badly and go off their feed.

In our experience with sorghum so far, we have not had any cattle poisoned by it; yet at times it, as well as Kaffir corn, is very deadly to cattle. Dr. Haddon, of the Colorado station, found one per cent of prussic acid in the leaves of Kaffir corn from a field where cattle had died; while Mr. Slade, of the Nebraska station, found in a sample sent him from a field of sorghum that had proven to be poisonous, .014 per cent of the entire weight of the sample to be prussic acid. As the leaves contain most of the poison, the cattle in a field, by rejecting the stems, would receive a greater proportion than the analysis of the plant shows to be present. In case of poisoning not immediately fatal, the remedy is a quart of molasses or a couple of gallons of milk or buttermilk.

Why sorghum should be wholesome most of the time, yet occasionally should form one of the quickest and most deadly of poisons, has not been discovered. Dryness, second crop, excessive moisture, shade, too hot sun, over cultivation, lack of cultivation—have been suggested, but careful investigation and experiments have shown fields of sorghum perfectly wholesome under these conditions, and that the fields that were fatal to cattle had the same cultural and physical conditions as the healthful ones. So while we know what the poison is, the cause for the present must be assigned to the total perversity of inanimate things.

While sorghum is not as valuable as corn, it has a place that would be hard to fill as cheaply with any other feed. The grain alone is worth in feeding value ten per cent. less than corn, though the whole plant has a little greater digestibility than the entire corn plant. Sorghum and corn both need balancing with protein. That, alfalfa furnishes us very cheaply. We can also find it in bran—at a higher price however. Corn has had its poet, when Longfellow sang of its beauty, while alfalfa has only had the cattle men to prosaically say "Its good." Yet nature's bees and birds hum and sing of the alfalfa fields and the cows draw in deeply of its cool, soft air, full of the sweetness of the alfalfa bloom. So alfalfa receives the homage due to the king of all dairy foods produced on the farm.

That which is good feed will make good manure.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
Jerseys with a record as milk and butter producers
Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams, for sale.
L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

The Lemonita Herd
OFFERS FOR SALE
VELA HASTINGS, 119615 A. J. C. C.
Born Oct. 15, 1895; Fresh July 2, 1905; Bred July 11, 1905, to Sargent Fox, 64833
Authenticated Yearly Butter Fat Estimate: Milk, 7486 lbs., 3 oz; Butter Fat, 450 lbs., equal to over 529 lbs. Butter
Price $150
Address Leffingwell Rancho, Whittier, Cal.
When writing advertisers mention Cultivator.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA
When writing advertisers mention Cultivator.

Holsteins For Sale
From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.
MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD
DAIRY SHORTHORN BULLS FOR SALE
Admiral Dewey 183493 and King Edward 184393 at head of herd. Address
Fred Fuller & Bro. Imperial, Calif.
When writing advertisers mention Cultivator.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.
When writing advertisers mention Cultivator.

LICE ON ANIMALS.

From one of those admirable little bulletins issued by the Kansas Experiment Station some time since, we note the following on control of lice:

"These wingless insects are found parasitic on all animals. Cattle are unfortunate in being the most common victims of lousiness. Sheep are rarely affected. We meet with this disease most frequently during the winter months, in neglected, half-starved, dirty animals. Young animals are especially liable to be infected. Somtimes, however, even well kept cattle suffer severely.

So-called lice are either true lice (Haematophinus) or bird lice (Trichodectes). The former have a slender often spindle-shaped body, a pointed head, grayish blue color, and suck blood. The Trichodectes are broader, have a squareish head, brown color, and have biting mouth parts, living on hair and epidermal scales. Trichodectes are usually found on neglected, unthrifty animals with long, shaggy hair and a dirty, scaly skin. They usually disappear as soon as the animal's condition improves. True lice, on the other hand, occur also on thrifty animals.

Every species of domestic animal has its own specific louse, or lice (horse louse, ox lice, two kinds, pig louse, goat louse, dog louse, etc., and Trichondectes of the horse, ox, sheep and dog). The louse of one species of animal can not exist permanently on another species.

* * *

Symptoms.—Lice always give rise to a troublesome itching, causing the animal to rub and scratch the infested portions of the body. The hair is rubbed off, or drops out, the exposed skin becomes inflamed, scaly, and even covered with extensive eruptions and large, raw, bleeding surfaces, giving the animal an extremely distressful and unsightly appearance.

Lice seem to prefer the region of the neck and mane, the back, root of tail and, in cattle, the base of the horns, in pigs the region between the hind legs.

The presence of lice and their nits attached to the hair is sufficient evidence regarding the nature of the trouble.

* * *

Treatment.—There are many remedies for destroying lice, e. g., arsenic, mercurial ointment, helebore, tobacco decoctions, the seeds of Delphinium staphysagria (staveacre), creolin, carbolic acid, lysol, train or fish oil, etc.

The following are of especial merit.

1. Mercurial ointment, diluted with a little oil, is very effective on horses and pigs. It is applied in small quantities to the affected parts only. It must not be used on cattle.

2. A tobacco decoction (one pound tobacco and three gallons boiling water, allow to stand for half an hour) with or without the addition of two pints of vinegar, is very effective; but often produces nausea in horses and cattle.

3. Five per cent solutions (three teaspoonfuls to a pint) of creolin or lysol, in water containing 20 per cent of alcohol, well rubbed in with a stiff brush, is very effective.

4. The remedy which has given the most satisfactory result to the writer is kerosene emulsion, made as follows: Kerosene, two gallons; common or whale oil soap, one quarter pound; water one gallon. Heat the solution of soap and add it boiling hot to the kerosene; then churn the mixture for ten minutes. Be sure to have the water boiling hot when you add it to the kerosene, and churn it thoroughly, otherwise you will have trouble in making a good emulsion; which, when made right, should have a creamy appearance. Dilute the emulsion with twenty gallons of water and apply with a spray pump. If no spray pump is at hand, drive the animals, if many are to be treated, into a narrow chute and apply the emulsion with a common watering can, being careful to treat all parts of the body.

Select a mild, sunshiny day for the operation. In the course of four days or a week repeat the application in order to destroy those lice that have, in the meantime emerged from the nits. Where the animals have been kept in stables or pens do not neglect to give these places the same treatment; they are just as lousy as the animals, and if not treated they will soon reinfect the animals. Finally, avoid conditions favorable to future infections, by giving animals proper care and keeping them in vigorous, thrifty condition. For long-haired animals (calves), shearing might be recommended. Weak, rundown animals may require special nursing to recover completely from an attack of lousiness."

FLIES FROM CATTLE.

An eastern exchange has the following, which looks anything but attractive, and think it should be tried with caution. It certainly looks as if it would keep flies off:

Take coal tar, two parts, and coal oil and grease, one part, and mix with small amount of carbolic acid. Apply with a cloth by moistening the hair and horns of the animal with the liquid. In the applications include feet and legs, and it will drive every fly away, and one application will last ten days or more in dry weather. Apply as often as necessary and your cows will be entirely free from flies of all kinds. Any kind of old lard or grease can be used. Coal tar is the base of this remedy, and when too thick to spread well use more coal oil; when too thin to adhere well use more coal tar. Carbolic acid will cost about 50 or 60 cents per pound in crystals by the pound, and every farmer should always keep it on hand, as it, in its many uses, is indispensable.

Nothing is so good as the earth floor for animals that have tender feet.

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.
When writing advertisers mention Cultivator.

Pure Bred Black Minorca Hens For Sale
Also some young birds of same breed. Inquire of D. M. HATHORN, COMPTON, CAL.
When writing advertisers mention Cultivator.

Dr. Paxton's Cough and Throat Remedy
FOR HORSES AND CATTLE
This preparation is given for all diseases of the throat, such as Cough, Colds, Catarrh, Influenza, Distemper, Laryngitis, Pharyngitis, Pink Eye and Shipping Fever. In all these diseases this remedy removes and prevents inflammation and ulceration of the membranes, relieving laborious breathing and irritation, preventing pneumonia and death. $1 A CAN, $9 PER DOZEN CANS. Ask your druggist for Paxton's Cough and Throat Remedies, or, if your druggist does not handle them, write
Laboratory at La Porte, Ind.
Paxton Veterinary Medicine Company, Lock Box 95, Sta. C., Los Angeles, Cal.
When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT — **Calfalfa Meal** — ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings, or Oil Cake Meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

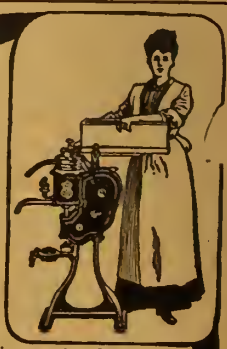
Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application

MILLS West & Nielsen Aves — **California Stock Food Co.** — OFFICE 121 Forsyth Bldg.
FRESNO, CAL.
When writing advertisers mention Cultivator.

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.
When writing advertisers mention Cultivator.

TIME IS THE TEST
of durable construction in a high-speed machine like the cream separator. No other machine a farmer uses has a harder test. Run twice every day, winter and summer, it must not only do thorough work, but to be permanently profitable, it must be durable.



U. S. Cream Separators
Which hold World's Record for Close Skimming,
are built for long service. A solid, low frame encloses entirely all the operating parts, protecting them from dirt and danger of injury. The parts are few, simple and easy to get at, every one being subjected to most thorough inspection, both of material and workmanship. Ball bearings at high speed points, combined with automatic oiling, reduce wear as well as insure the easiest operation. Every machine is tested before shipment. Such careful and thorough construction is what enables the U. S. to better

STAND THE TEST
than any other separator. You don't have to buy a new one every year or two. And remember: the U. S. does the closest skimming all the time.
Read a few of the thousands of letters from people who have used the U. S. 5, 8, 10, 12 or more years. They know about the "test of time." Send for Catalog No. 550. It's free and it's interesting, and will point the way for you to save money as well as to make money in your dairy
VERMONT FARM MACHINE CO., BELLOWS FALLS VT.
411 PROMPT DELIVERIES 18 DISTRIBUTING WAREHOUSES IN U. S. AND CANADA

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

FORCING THE MOULT.

"Will you kindly explain what is meant by forcing the moult and why and how it is done" writes (Mrs. W. H. Y.) a beginner.

I thought that last week's article covered most of this ground, but perhaps I was not explicit enough for "a beginner" to understand. "Forcing the moult" or "controlling the moult' is making the hens moult at any season or time that you may wish.

The moult is always more or less a trying time to a hen. It usually takes, unassisted, from sixty to a hundred days. Some hens moult quickly and some slowly, according to the condition of the fowl, the season of the year, and the quality of the food.

Egg making food, the food which contains the elements of the egg, is the food which contains the elements of the feather. Feeding is a very nice subject, and can only be determined by experience. If too rich a food is constantly fed it will either induce a continuous moult or will result in indigestion and liver trouble. To feed as highly as possible without over feeding is what we want for both eggs and feathers.

Last year at about this time I gave our readers a synopsis of the experiments with moulting hens at the West Virginia Experiment Station, the year before. Two years ago I described Mr. Henry Van Dreser's method and each season I gave my own trial of forcing the moult. Last week I told you what to do without explaining all my reasons.

I have now before me a very able article from Dr. Sanborn's pen, headed "The Forced Moult, how to do it, the change in feeding, what not to do." His methods are almost exactly what I have already described to you, but I give them again in his words. He is one of the best and most scientific authorities on poultry in this country, his books and writings are standard works. He is associate editor of "The Poultry Keeper" and the article from which I quote is in the July number of that excellent poultry magazine.

* * *

"Today we take our birds and use them as we would a machine. To be sure we handle them carefully, we look to the future as we get the profits of the present. Yet it is true that we are trying to get the most dollars from our poultry farms. One of the helps to large egg profits is the forced moult. It is not enough to wait for the bird to moult when nature would do it. This might be so late in the fall or early winter as to prevent any winter eggs from the yearling hens. If you do not keep over any of the hens that have been laying for the last eight months then the forced moult is not of help to you.

If you do not keep over the best of the yearling hens I think you are making a mistake. These birds that will be two years old the coming spring will make the very best breeders you can find.

* * *

Handling the Old Fowls.—I suggest that you pick out the best half of the females hatched in 1904 and pen them for a forced moult. Let these birds have all the strong points of the variety you keep. Let them show practical points first, fancy second. To have the birds moult so as to begin laying early in November, they should begin to be treated before the first of September. I do not advise starting my plan before the first of August. Suppose we have thirty hens that are the best of last year's hatch. These we have culled out of eighty that have done the bulk of our laying the past eight months. These thirty contain the few birds that observation, or the trap nest, has shown us are our best record egg layers. The market chicks, now half grown, coming from special eggs, help us in the final selection of some of these thirty hens. We wish to save those birds that have been our producers, either of large numbers of eggs, or of show stock.

* * *

Low Feeding, or Starving Process.—These selected birds we will yard where more shade is plentiful, where the ground is covered with grass, and where space is not limited. Until the last of August we will feed these birds moderately, working for a fair egg yield, not stimulating and not underfeeding. Along the latter days of August we will cut out much of the usual food. All corn and corn meal, meat scraps and green bone, are omitted from the daily ration. One meal a day is fed, and that at night. That can be whole oats soaked in hot water for an hour, fed moderately. It may be, several times a week, just a measure of dry bran. One night of each week it can be barley, another wheat, and so on, omitting all corn products. It is largely a question of what not to feed as well as how little to give the birds you desire to moult.

There is one line of foods you may feed in unlimited quantities and that is the green vegetables. The waste, small beets and thinnings of the garden rows, can be supplied every day. If the yard is all bare, the cuttings of the lawn can be given every day. My own plan, in the days when I had small, ungrassed yards, was to give full quantities of lawn clippings, putting them in the yards an hour before dark. This gave the birds time to fill up at night, and yet the uneaten clippings would be still fresh in the early morning.

If you have had no experience in the use of lawn grass, you will be surprised to see the quantity that a few hens will eat. If your hens have very large yards with fruit trees to supply some falling apples or pears, the birds will do very well without any other food. We are inclined to overfeed our birds in warm weather and unless the food is really much less than usual you will fail in getting an early moult.

This low feeding or starving process as it is called by many, is the important factor in the forced moult. Unless you really do this in good shape the birds will continue to lay and shed

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

When writing advertisers mention Cultivator.

FLYO-CURO

Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL

The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS

—AND—

BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street

San Francisco Office and Salesroom, 33 Market St.

When writing advertisers mention Cultivator.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food

ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

HOW 1700 HENS BUILT A $3500 RESIDENCE

Story of a Southern California Poultry Farm

H. D. FREEMAN,
Santa Maria, Cal.

(By A. R. COULSON.)

On our automobile trip to Los Angeles, we found that there were several large poultry farms situated near Santa Maria, about four miles from town. As we were interested in seeing some of these large poultry farms we made a special trip out for that purpose. We first called on Mr. A. J. Freeman, who cordially received us, and made us feel heartily at home, and Mr. Freeman said he would take the afternoon off and show us the richest country in the world. So we took him, his wife and two children, in our machine, and we rode out for several miles to the new oil country, where we saw oil flowing in streams, and there were three large lakes of oil, as smooth as glass, and reflecting like a mirror. Whole lakes of oil, millions of dollars worth, and a little further up the mountains were two large gas wells, which were on fire, and the flames went up hundreds of feet in the air, and could be seen for many miles away, and they had been burning night and day for many months.

* * *

On our way back to the ranch, Mr. Freeman said we would go in and see his brother, Mr. H. D. Freeman, who is recognized as the largest and most successful poultryman of that country. Mr. H. D. Freeman was rather surprised to see us all, but welcomed us cordially.

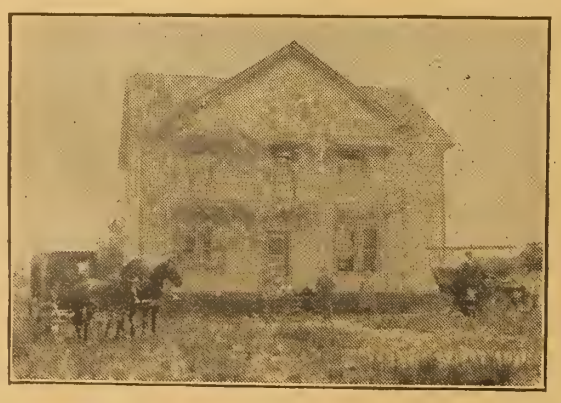
Mr. Freeman invited us into his new residence, which is an elegant house of fourteen hard-finished rooms, eight closets, and cement cellar floor. His ranch covers 200 acres of good, rich land, and all surrounded with poultry wire netting fence to keep out all wild animals. He keeps 1700 laying hens, and for the past several years has kept books, recording the receipts from poultry, cost of feed, etc., and he showed us the books that showed how MANY MORE EGGS were laid, and how MUCH MORE THE RECEIPTS were the last year SINCE FEEDING COULSON'S FOODS, than they were for two or three years before, from the same number of hens. During the last year, from May 1, 1904, to May 1, 1905, the 1700 hens netted him a profit of over $2000.

* * *

EGG RECORD.

1700 hens fed one year on COULSON'S EGG FOOD. One meal each day. Started April 18, 1904. Eggs increased from 40 to 73 dozen a day.

Mo.	No. eggs.	Doz.	Amt. rec'd for eggs.	Rec'd P'ltry Sold
1904—				
May	23,472	1956	$343.16	$14.80
June	19,464	1622	292.56	
July	17,246	1437	335.70	60.14
Aug.	11,882	990	282.90	12.26
Sept.	8,412	701	201.28	78.88
Oct.	9,084	757	225.09	34.20
Nov.	9.480	790	310.68	57.22
Dec.	11,042	920	319.49	
1905—				
Jan.	15,780	1315	304.40	
Feb.	21,840	1820	324.10	
Mar.	25,040	2087	347.39	
Apr.	23,228	1936	346.61	96.20
	195,970	16,331	$3633.36	$263.20



H. D. Freeman's new residence, 14 rooms, 8 closets and a cement basement; Cost, $3500.00. Built from the profits of 1700 laying hens (in 18 months time) which were fed on Coulson's Egg Food.

NOTE—During the last month, April, hens were only fed one sack a day of the Egg Food.

Amt. rec'd from eggs sold	$3633.36
Amt. rec'd from young roosters, etc	263.20
Value of eggs and poultry used in family	178.20
Total	$4074.76
Value of 510 sacks of Coulson's Egg Food fed	$ 892.50
Value of 577 sacks wheat, barley and corn fed	1115.20
Total cost of feed for year.	$2007.70
Net profit, 1700 laying hens fed one year on Coulson's Egg Food as per careful daily record	$2067.06

Scene on Freeman's ranches near Santa Maria. These fowls are all fed on Coulson's Feeds regularly.

NOTE—The poultry sold was young roosters, etc., fed with above supply of feed.

Figuring the value of wheat, oats and barley, at what they were worth if he was to sell it, as he raised his own grain (about 150 acres), his profits are really much more than as above stated, for raising his own feed, he did not have to buy much more than 510 sacks of Egg Food. He fed them 1½ sacks a day of it, excepting during the months of March and April last, he used but one sack a day and the hens averaged over two cases of eggs a day during these months. From now on, June 1st, he feeds them 1½ sacks a day for the morning meal.

During the past year he has put up fifteen new poultry houses, and also built a $3500 residence, which he moved into on April 25th. As the poultry has proved so profitable when fed on Coulson's Foods, this year he is raising several thousand more (they are fed on Coulson's Chick Foods), so that by fall he will probably have over 3000 laying hens.

Mr. Freeman's brother, Mr. A. J. Freeman, also has about 1000 laying

Freeman's White Leghorn Poultry Farm

Santa Maria, Cal. May 20, 1905

Coulson Poultry & Stock Food Co.,
Petaluma, Cal.

Gentlemen:-

One of your salesmen was through here a year ago and I promised him I would feed Coulson's Egg Food for one year and keep a careful record of results and compare with former years. So I bought five tons of it to begin with, and on April 18, 1904, started to feed one and a half sacks a day of it, as the morning mash. At that time I was getting about 40 dozen eggs a day, but after I had fed it for ten days the hens began to increase, and by May 10th was getting as high as 73 dozen a day. During July, August and September they averaged from 25 to 40 dozen a day, whereas in former years, without your Food they would lay but very few eggs during the molting season, one or two dozen a day being their average.

The record also shows for the months of October, November and December an increase of from 40 to 150 eggs per day over the previous year, with the same number of hens.

From May, 1904 to May, 1905, the 1700 hens have netted me more than $2,000.00 profits. I have put up fifteen new poultry houses and also built a new fourteen-room residence, into which I moved Apr. 25th. So you can see I have found it very profitable indeed, to feed your Egg Food, and I am now glad to place with you another order, this time for a carload of 15 tons, 330 sacks. My brother, A. L. Freeman and my neighbors Eames and Chaffin will take some of this car, so in a couple of months we will need another carload. The feed is all right.

Yours very truly,

H. D. Freeman

POULTRY RAISING A PROFITABLE INDUSTRY

The Freeman Farms

The Freeman poultry farms are the largest in the Central Coast counties. They use Coulson's Balanced Feed and make large profits.

H. D. Freeman Santa Maria Calif

July 1904

EGG RECORD

OOZ.	DATE	Eggs Gathered	Eggs Sold	Amount Received for Eggs Sold	Amount Received for Poultry	Paid for Supplies	Value of Eggs and Poultry used In Family	Paid for Feed and other Supplies
51-3	1	615	210	41 65				
51-6	2	618						
55-1	3	661						
51-10	4	622						
53-6	5	642	180	40 96				
53-	6	636						
52-8	7	632						
50-1	8	601		2 40	Lee			
53-8	9	644	220	49 87				
50-2	10	602						
52-	11	624			14 80			
49-2	12	590			33 18			
48-2	13	578	185	44 67				
46-11	14	563						
43-2	15	518						
42-8	16	512	155	40 02				
41-2	17	494						
40-	18	480						
41-2	19	494						
40-5	20	485						
39-1	21	469						
40-2	22	482	185	43 12				
41-2	23	494						
42	24	504						
42-8	25	512	153	33 71				
43-4	26	520						
44-3	27	531						
44-7	28	535						
43-4	29	520	180	39 30	12 16			
44-9	30	538						
44-2	31	530						
				$335.70	60.14			

Fed 46½ sacks Coulsons Egg Food @ $1.75 ch $81.30
45 sks of wheat valued at 101.10
10 " " corn " " 13.20
195.60

RECEIVED FOR EGGS $335.70
Cost of feed 195.60
Profit for month $140.10

hens, and he is now raising several thousand more little chicks on Coulson's Special Chick Food, so that by next winter he will have a much larger flock. He has also kept a record of amounts received from eggs sold for the past eight years, and SINCE FEEDING COULSON'S EGG FOOD, in comparison to the number of hens, THE PROFITS HAVE BEEN MUCH LARGER. His receipts from eggs sold show the same excellent results.

Mr. Eames, who has a ranch adjoining their farm, keeps a flock of 800 laying hens. He also has fed Coulson's Egg Food for one year, and has kept a record showing the increase over previous years.

Also Mr. Chaffin, another neighbor, has 600 hens, and has fed Coulson's Egg Food for more than a year, with marked increased profits from its use.

A 15-ton car of Coulson's Egg Food was shipped to H. D. Freeman on May 22d, and will be divided among these poultrymen, so that they use a carload of Coulson's Egg Food every two or three months.

For every dollar that you invest in Coulson's Egg Food, you will get back $3.00 worth of eggs. For every dollar ($) that you invest in Coulson's Egg Food, you should make $2.00 profit. Hundreds of poultrymen are making it and so can you.

A. J. FREEMAN,
Santa Maria, Cal.

Early morning scene on the Freeman ranch. Feeding Coulson's Egg Food.

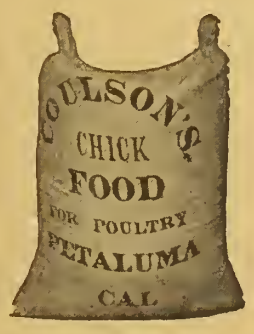
Those who are using $500 worth a year of Coulson's Egg Food are making in return more than $200 a year profit.

So remember that if you feed your fowls Coulson's Egg Food, the year round, that for every dollar ($) you invest in the food, you can make $2.00 profit in return, according to what others are doing.

Stay with the Coulson Food—feed it to your hens right along every day, for there is no better feed made.

You can buy Coulson's Egg Food and Coulson's Chick Foods from most any feed store; or if not, write to factory, give us name of your dealer, and we will send you a free Poultry Account book, as well as fectory prices of Coulson's Foods.

Beware of imitations.



The Coulson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

their feathers in the middle autumn.

Handle these selected birds when on the roost. You must feed as directed for weeks, enough to get the birds free from all fat. They must be very thin in body, yet fairly good in color of comb and wattles. I find that my birds take from fourteen to twenty days to get real thin. You will notice, as you put this plan into practice, that the egg yield will drop off until no eggs are being laid; that the birds are on the run all day long, coming to meet you at any point of the fence that you may approach. The birds will show that they miss some of the usual food. This thinning will do no mischief to the birds, in fact I think it adds to the health of the birds for months to come.

* * *

Radical Change in Feeding.—When the birds have lost all spare flesh. when the eggs have ceased to appear for a week, then you change your plan of feeding. Instead of slightly starving the birds you feed them good full rations of slightly growing foods. Now is when you add meat meal, meat scraps, green bone, corn meal and linseed meal. Give them a morning mash of corn meal, two parts; bran three parts; meat scraps one part. Mix this with cool water and feed at once, giving what the birds will eat in a quarter of an hour. At noon feed a small handful of wheat or barley to every bird, and at night a full feed of wheat or corn.

Do not neglect to furnish full supplies of greens and vegetables all the fall.

(To be continued next week.)

* * *

EDITOR'S QUESTION BOX.

Geese.—(B. G. J., Mecca.) Six months ago I was asking you about advice in pigeon raising. I followed your directions and am very much satisfied. I have now again some questions to ask, and will thank you very much for your advice.

I have about ten acres in alfalfa and intend to pasture it off for the benefit of the soil rather than selling the hay. Do you think geese would be a good fowl to raise under the circumstances? Turkeys will of course bring a higher price, but then I have not the range and cannot give them the same attention that they ought to have. Which bird eats more in proportion to meat produced, the goose or the turkey? Which is the most destructive to the pasture it is on? How high would I have to fence in order to prevent geese from leaving the place? What would be the most preferable breed?

In this part of the desert Indian Runner ducks have been quite a success. Could the latter make three-fourths of their living off alfalfa, so that a man would only have to supply one-fourth in grain and animal feed matter?

Answer.—In reply to yours, I am glad to hear that your pigeons have proved a success. I think that you will find geese more satisfactory than any other fowl for your purpose. They graze about as closely as sheep, they do not peck or pull like chickens, ducks or turkeys. They would need nothing but the alfalfa except a little corn at breeding time to call them up to the house or enclosure so as to keep them nearby in safety, and to find their eggs. They are the easiest to raise of any fowl. They are a grazing bird, cutting off the grass as if their bills are a pair of shears. I have two now grazing on our lawn, cutting it like a lawn mower. Turkeys would eat more grain than geese and geese would eat more grass, or alfalfa, than turkeys. I think geese will be less destructive to pasture than any other fowl. I do not think you will have to fence at all to keep geese in; if you drive them off your garden a few times they are quick to learn, besides they are so fond of alfalfa that I doubt if they will leave it for your garden. The only trouble might be in protecting them from wild animals. The Toulouse are the most popular and the most profitable kind. Geese are even easier to raise than Indian Runners. The latter would easily make three-fourths of their living off alfalfa, but to do well they require animal food of some description, frogs, fish, etc. Geese do not seem to need the animal food, but when preparing them for market they should for about two or three weeks have corn to fatten them.

* * *

Cottonseed Meal, etc.—(H. E. B.) Will you be so very kind as to advise me in what proportion to feed cottonseed meal in a mash composed as follows: Three parts bran, three parts rolled barley, one feed meal, one rolled oats, one meat scraps, and one-half part granulated bone. I feed this in the morning to hens and chickens older than three weeks. Do you think it is a too strong meat ration for the chicks? Also, will the addition of cottonseed meal be beneficial? I feed green alfalfa at noon and grain in the evening.

Answer.—Your mash is a good one. The lack in it is green food. Add to it three parts of alfalfa meal; this is alfalfa ground very fine, Cottonseed meal is fattening, is often added to the mash during the last week of fattening to give the yellow color to the skin. It is of very high protein content. The bulletin No. 164 (Berkeley, Cal.) gives it as 47.25 per cent, therefore it must be used very cautiously or it will be too strong and one-tenth of a part is all I would advise you to give. You will find the alfalfa meal an excellent addition but add it gradually, begin with only a tablespoonful or not over one-tenth of the mash and gradually increase very slowly till you are giving taree parts of the alfalfa to the ten parts of other ingredients. Cottonseed meal is a great help in hastening the moult but must be given cautiously or it will upset the digestion and take away the appetite, and you may have to omit one or two meals entirely. Also, if you have white fowls, feed cottonseed meal sparingly as I think if it will give the rich yellow to the skin it may tinge the feathers also with a cream or yellow color which we do not desire. This is only a suggestion of mine. I have fed it, but always carefully and therefore have had only good results.

A SNAP—CHICKENS

Flock of Thoroughbred S. C. W. Leghorn Hens. Chance for choice stock at lowest prices. Call or write.

E. A BOST, 514 W. Crow Ave., Pomona, Cal.

Dean's Pacific

Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.

WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.

When writing advertisers mention Cultivator.

„ Summer Hatching „

Pays us—it may interest you if you if you are not overstocked. An August hatched cockerel from these yards sold for $15 this spring. Eggs after July 1, $1 for 15, $5 per 100, including the eggs from our prize winning birds.

Lake Avenue Poultry Yards, Pasadena, Cal.

When writing advertisers mention Cultivator.

JACOB KREGER

Breeder of

White Leghorns

Eggs in Season

ANAHEIM, CAL.

When writing advertisers mention Cultivator.

BLUE ANDALUSIANS Eggs, $1.50 for 15

MRS. J. S. DUFF, 3145 S. Hoover St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

NATURAL HEN
Incubators and Brooders

Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free

F. S. LOW & CO., PETALUMA, CAL.

Manufacturing Agents for Pacific Coast States

When writing advertisers mention Cultivator.

BARRED ROCKS

EXCLUSIVELY

Send for 16-page 1905 Catalogue

H. R. CAMPBELL

Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS

Still Lead

——Circular Free——

GEO. R. ALBERS

4849 MARMION WAY LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

When writing advertisers mention Cultivator.

The Big Incubator a Success

The Mammoth Incubator at Bamboo Ranch is bringing out a fine hatch this week. Eggs for the next hatch may be sent at once. Hatching for the trade is our specialty. **Four Good Incubators and Brooders for Sale.**

2000 Barred Rock chicks just hatched will also be disposed of

BAMBOO POULTRY RANCH

Home Phone Glendale 701 on Los Angeles Exchange

AIKEN & COE, Proprietors GLENDALE, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at 1903 Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.

SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 **Los Angeles, Cal.**

RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. **LOS ANGELES, CALA.**

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

Queries and Suggestions

WIRE WORMS.

Editor Cultivator: I send you, by other package, specimens of wire worms. I think that is what they are commonly called. At any rate, they are doing much damage to my place. I plowed under barley stubble, irrigated and planted sweet corn and some other crops and after corn was some three or four inches high, worms commenced on it until now there is but little left. The tomatoes are badly infested and not growing at all and upon pulling them up, find the stem under ground is badly infested. How may I treat them?—E. C., Santa Ana.

About the only treatment for such worms, and we question whether it could be of any value to you at this late stage, is the use of ashes and lime, or the mineral fertilizers, well worked into the ground. Of course, a sure cure is bi-sulphide of carbon placed in holes in the ground. But this, for a good-sized field, of course is out of the question, on account of expense. The only remedy we have seen in a large way is rotation of crops, killing out one year by planting crops which will not maintain the worms, that the crops which these pests infest may be free the next year, although another remedy often recommended and certainly harmless and not expensive to try is the use of tobacco dust. It is much used in truck growing and one authority says it is altogether too little appreciated. It adds some fertility to the soil, so it is not all loss, even if it should prove of no insecticidal value. One authority says it is worth practically all it costs as a fertilizer. This is put into the soil with a common seed drill, drilling well down, when the irrigating water later may carry it down so that it will destroy the soil infesting worms. It is used usually at the rate of 400 pounds per acre, but we imagine this would be too late with your present crops. At best, the wire worm is a most perplexing trial to gardeners and the remedy which will always prove effective will be hailed with delight by many.

CONCRETE HOUSE.

Editor Cultivator: Having abundance of sand on our farm and wanting to build a concrete dairyhouse, I ask how to mix material for building walls of concrete.—Reader, Corona.

In another column of this paper are a few notes on the building of cement floors for stables which give the formula for mixing, but "Reader" must bear in mind that concrete is not a question of sand so much as it is of gravel. Good, clean, sharp gravel, six or seven parts to one of Portland cement is about the proportion usually used for mixing. The cement and gravel are thoroughly shovelled and mixed together while wet and then while shovelling sprinkle over the mixture until all parts are thoroughly wetted, being careful not to mix more than will be used within a short time. It is dumped into the forms which are built up the same distance apart as the wall is to be thick, and kept from spreading under the pressure of the tamping of the cement by heavy wire holding together, which may remain in the wall when the forms are taken away. When dumped in these forms, to the depth of say six or eight inches, the concrete is all to be tamped down thoroughly solid and firm. The article referred to, on cement floors, may be found on page 81 of this issue and will contain additional information along this line.

WHAT TO PLANT.

Editor Cultivator: What fruits or nuts do you advise planting in the sand hills north of Corona? Water secured for irrigation by pumping. Alfalfa grows beautifully.—Reader, Corona.

This question is far better answered by orchards which are already doing well in that vicinity. You mention alfalfa as doing beautifully and alfalfa certainly is a most profitable crop to grow. However, if you wish fruit or nuts, English walnuts usually do well on any land which is favorable to alfalfa. If canneries are convenient it is possible peaches would prove profitable on such land as you mention.

LAND UNDER RECLAMATION.

Editor Cultivator: I am interested in the reclamation projects and would like a little information concerning them. Where are the lands to be opened, how, when and at what cost- Are these lands now withdrawn from homestead entry? If you can not give me this information, can you tell me where I can find out all about it?—G. S., Whittier.

We assume the inquirer wishes to know about the reclamation of the arid land, although it is possible he wishes to know about the reclamation of swamp lands. The latter is a State proposition, and nothing with which the national government has to do, and excepting in a section along the lower Sacramento and San Joaquin rivers is of little interest to California.

The reclamation of arid lands which is being conducted under the Department of the Interior under the act approved June 17, 1902, is probably what our inquirer wishes to know about. First we may say that the best information can be secured by writing to the land office of the district in which land may be wished. For instance, if in Southern California, write to the U. S. Land Office, Los Angeles, California, when a circular of instructions relative to entries on lands withdrawn for the construction of irrigation work for the reclamation of arid lands will be forwarded and such other information as may be desired. In Southern California there is but one district which has been reserved for this purpose, and this in the Colorado desert above Yuma, where the government recently let the contract for a diversion dam at a cost of nearly $1,000,000. These lands have been reserved from homestead entry and may not be filed upon at this time. At what date they will be thrown open is yet unknown. There are projects under way in nearly every arid State, though those in California are in connection with either Oregon, Nevada or Arizona. There are several in Arizona, several in Nevada, also in Oregon and one in Washington. The estimate as to what the cost of the land is to be can not be given, as it will vary in the various districts.

In raising seed, make it an item to select that which has ripened first.

Lime Your Lands
LIME, $2 PER TON
MANURE, 45¢ PER TON
Time to buy. For particulars write
H. B. MATTHEWS, Riverside, Cal.

UNDUE HEAT.

Under the head of "False Impressions," the Imperial Standard refers to the Cultivator's recent item of the control of the Southern Pacific over the affairs of the California Development Co., and accuses us of being "intentional prevaricators, because of lack of understanding." Of course we are sorry, and had we known better we would not have been guilty of lying "intentionally."

But why the heat of the Standard we cannot understand. We referred to the recent deal as "the transfer of the principal holdings from former President Heber to the Southern Pacific Co.," etc., and the Standard says the Cultivator "proclaims the Southern Pacific Company as OWNER of the principal holdings of the "Imperial Development Co.,' (Californit Develoopment Co.)

"For the information of the esteemed 'Cultivator' it may be said that:

"The Southern Pacific DOES NOT [the caps are from the Standard] own a single share of stock or bonds of the California Development Co."

Now, as to the actual ownership of the company, it is a mighty small affair. As to whether the Southern Pacific "owns" the California Development Co., controls it under trust deed, mortgage, or what not, is of no general interest. But it is of great interest to the Cultivator and to all its readers, and especially so to people of Imperial Valley to know that somebody, or bodies, with abundance of funds and business sense is to put brainy men in charge and assure the future greatness of that magnificent water system and valley.

The Standard had better save its energy in defending somebody's pride in still being "owner," and use it in showing the wonderful productiveness of that soil when the Colorado river is poured out upon it. That this will be done successfully under the present management we believe.

ANOTHER EXPERIMENT STATION DISCONTINUED.

Reference was made last week to the fact that the State University authorities were about to discontinue the experiment station at Tulare and we now note in the Pomona Times a statement that the Southern California station, located at Pomona, is also to be discontinued. This is occasioned partly at least by the fact that the new pathological station, provided for at the last session of the legislature, will investigate certain diseases and the condition of fruit culture in Southern California, separate and apart from this experiment station. It is perhaps true that the management has labored under the disadvantage of insufficient funds to carry the three experiment stations, but the producers in the various sections who realize the vast diversity of interests in the State and the distance away of some sections from the central station at Berkeley, have felt a need for these experiments to be carried on in their own neighborhood, so far as possible. But nearly all have admitted that in the past results have not been accomplished which they had hoped would be by these various stations. There is probably no State in the Union which gives so varied a list of problems to its experts to handle as does the State of California. Almost every fruit or agricultural production under the sun are produced here and the determination of the best methods of growth under the diversified conditions which exist in this State has been a grave problem. The regents anticipate ability to accomplish more by centering all the work in the central station located at Berkeley and, if that is to be the decision, we certainly hope better results will be accomplished than have been in the past.

The more litter in the manure the shorter the process of decomposition.

For Sale, 30-Acre Alfalfa Ranch
Choice location. Good Stand.
Plenty of water; will divide it.
T. B. HIMROD, Owner POMONA, CALIFORNIA Home Phone 496
When writing advertisers mention Cultivator.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 **Pasadena, Cal.**
When writing advertisers mention Cultivator.

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.
When writing advertisers mention Cultivator.

MEALFALFA
Reg. U. S. Patent Office
FOR POULTRY
MEALFALFA is very rich in protein (the egg forming element) and also has a good percentage of food element. It is dry and should be moistened with either hot or cold water when fed; this brings out the rich green color, more nearly representing grass conditions; the quality which poultry men are looking for in their feeds. Feed your hens ***Mealfalfa*** and you will find that they will lay very fertile eggs which produce strong, vigorous and hardy chicks; also they will moult quicker in the fall and commence to lay earlier in the season.
For laying hens, we put several quarts of ***Mealfalfa*** into a closed vessel, then pour boiling water over it, until it is thoroughly moistened; place a cover over the vessel and let the mixture steep awhile; just before feeding put a little cold water over the same. Some prefer to mix the meal with table scraps or grain, both of which add palatability and variety to the mash.
For young chicks, feed it mixed with grain or bread crumbs; on this feed they will grow very fast, keep hardy and strong and feather out quickly. Never allow portions of the moistened food to remain in the trough after the chicks have eaten, for any food after being moistened is liable to fermentation.
Stockton Mealfalfa Co.
STOCKTON, CAL.
When writing advertisers mention Cultivator.

QUEER SOLOMON OAKS.

A queer old fellow is Solomon Oaks;
He belongs to the good-natured order of folks;
He sings and he whistles about the work
That nobody ever has known him to shirk.
And he makes you think with his blithe good cheer,
Of the merry blackbirds when spring is here.

If they come to him with a doleful tale
Of a neighbor's faults, they always fail
To rouse attention to what they tell.
At such a time he can't hear very well;
But if they praise up a neighbor—then
He can hear as well as the best of men.

He always indorses the good things said
By his friends of the living as well as the dead.
If he's asked what he thinks of a man gone wrong,
He'll pause, perhaps, in his cheerful song,
And say: "I'm sorry, but there must be
Some good to his credit, it seems to me."

"I haven't time to keep track," says he,
"Of the sad things and bad things that I might see
If I was to look for them; so I try
To shut my eyes as I pass them by.
And see only good things along the way—
And I find a lot of them every day.

"By always having something to do
I keep out of trouble and mischief, too.
I stick to my business, as best I can.
And keep on good terms with my fellowman—
And the better I treat him, it seems to me,
The better my fellowman treats me."

A queer old fellow, this Solomon Oaks,
With his merry laugh and his pleasant jokes,
And his faith in his fellows, said or sung,
He's a host of friends among old and young.
He makes them and keeps them by smile and song,
And the word that helps us when things go wrong.

His life holds a lesson 'twere well to learn:
Shut your eyes to the bad; all the good discern;
Keep busy; be cheerful; and aim to make
This old world better for love's sweet sake.
Queer? Well, it may be; this, this I say:
More of such queerness we need today.

—N. Y. Tribune.

A Loss and a Gain

He stared at her across the aisle of the street car. Yes, she was lovely. Perhaps another would not have thought so, for she was imperfect in feature; but she had a sensitive, translucent face, through which shone the light of countless beautiful thoughts. He stared at her intently, till he began to hear her thoughts. At that he came to himself with a start and abruptly looked away.

He had this one strange faculty—that whenever his eyes rested on anyone he at once knew that person's thoughts. It could scarcely be called hearing, though we shall call it so for convenience; it was more a supersensitiveness of all the senses—what people call nowadays telepathy. His mother had always been absorbed in study of the occult, and she had marked him with this power.

He fixed his eyes on the advertisements above her head, and strove to take an interest in them; but he felt her eyes on his face, and though he struggled against it, his glance drew down until it rested upon her. Instantly he knew her thought. "Poor thing," she was thinking, "he looks very sad, as sad as if he knew all the sin and sorrow and fret in the world." He thrilled at the swift, sure diagnosis. "And yet his face is gentle, filled with infinite compassion for it all." At this he smiled a little humorously, tenderly, and their eyes met. For a second the world stood still about the two, as their glances flashed together. Then coolly, without hesitation, the man stepped across the aisle and took the seat beside her.

"Really, I had almost given up hoping to meet you again, Miss—he caught the name from her thoughts and uttered it before she could speak—Marshall. This is more pleasant than I can tell you. But it is so long since the last time we met that you will be quite excusable if you have forgotten me."

"Indeed I have not. Let me introduce you to my mother," she replied with admirable presence of mind, turning to the lady beside her, whom he had not observed before. "Mother, let me introduce you to Mr. Spencer."

He started and looked at her keenly, for she had guessed his name correctly. Was it possible that she too———? No for he heard amid the whirl of her thought: "I flatter myself that I can lie neatly when the occasion demands." So, then, it was only one of the thousand odd coincidences that he was constantly meeting.

There followed a few moments of civil chat with the mother. Then the girl turned to Spencer, and said carelessly, in a low voice: "I'm afraid you must tell me where it was that you saw me last. Unfortunately, my memory needs refreshing."

"Don't you remember, Princess, the many days I spent in your father's palace, while we played his favorite game, chess, and the evenings with you, when——, How is the king, your father?"

"The king, my father is well," she answered with a lift of the eyebrows and a smile, half puzzled, half amused. "And chess is still his favorite game. Mother," turning quickly, "Mr. Spencer here is an expert chess player. He has played for thousands of years," another smile. "You remember how father was longing for someone his equal in skill? Mr. Spencer, it seems, has played with him more than once before."

"Indeed? Then you will come some evening to play with him again, won't you? He has been getting quite restless for an opponent. You will be doing a kindness to him if you come. I assure you, you will be very welcome, not only——. Oh, Amy, here is our street. Goodby, Mr. Spencer."

The girl rose gracefully, poising in the swaying car. "Goodby, Mr. Spencer. You will come?"

"Oh, I shall be very glad to," he replied, ill suppressing his eagerness. His eyes dwelt on her face as she left the car, and so unintentionally he heard her thought—a lilt of glee, with the refrain, "He will come! He will come!"

In less than a week he went to pay the promised call. He sent up his card and the maid came back with the reply that Miss Marshall was out, but that her mother and father were in. Despite the fact that he was sore with disappointment he spent a very pleasant evening with Mr. and Mrs. Marshall, chatting with the one and playing chess with the other. Mr. Marshall he found a most formidable opponent, so much so that several times he was tempted to read his motives from his face, but refrained, for he had long ago decided that that was dishonorable.

He called a second time, and again the mother said that Amy was out, and again he smothered his disappointment and spent a tolerably pleasant evening over the chess board.

A third time she was out also, and he vowed he would not go again. Yet he went a fourth time, drawn irresistibly by his longing to see her. As was his custom now, he went up to the big library unannounced. He paused at the entrance, then drew a deep breath at the lovely picture before him. The library was lighted only by the fire in the great hearth. In front of it, lounging in a big chair, sat Amy, deep in reverie, one hand propping the head with its masses of gleaming hair, the other hanging languidly over the arm of the chair. From where he stood he could see her face clearly in the flush of the firelight, and watching motionless he heard her thoughts: "How I wish I might see him, but how I fear to That day in the car he called me princess—a pretty conceit."

In one stride he was beside her, pressing the languid little hand to his lips.

"Princess, my princess, why are you afraid of me?"

For an instant she lay there motionless, without surprise, for he had fitted into her dream so that she thought she was still dreaming. Then like a flash she sprang away from him and gathered herself for flight, but he caught her and turned her face to the firelight.

"Why are you afraid of me?" he demanded once more.

"Let me go," she cried, struggling. "I am afraid. I was home these three times, but I was afraid to see you."

"Why?" he asked once more, and this time the word was a command.

"Because you can read my thoughts. Because you know my brain and heart and I——." Her voice stopped, but she could not help finishing the sentence in her mind.

"Say it aloud, darling, say it aloud." he cried, half pleading, half commanding. And so, against her will, she must perforce say it aloud, blushing, stammering and ashamed."

He caught her to him and kissed her once. Then once more he turned her face and gazed into it long and earnestly, though she strove to turn her head away and her hands fluttered pleadingly at his breast. Then suddenly a glad light shone out on his face, and she sank down into the chair beside him.

HELP!

Settle Your Own Country

The Santa Fe is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to

WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

Union Bank of Savings

RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits 4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.

"It has gone," he cried; "it has gone. Thank God! You need never fear me any more. I could never look frankly into the faces of my friends without having their thoughts thrust upon me. I have borne the burdens of a hundred men because of this terrible power. I have grown old before my time. But now your love has freed me from this curse. I shall grow young again."

There was a June wedding in the Marshall family by which old Mr. Marshall acquired a son-in-law, a skillful chess player who could gaze steadily at him between moves without dishonor.—Boston Post.

Cookery Recipes

CUCUMBER PICKLES.

Editor Cultivator: Will you or any reader of the Cultivator kindly give us information how to put up small cucumber pickles? We have tried several ways but have failed to keep them crisp.—L. P. L., Pasadena.

We give below two recipes, both of which are said to be excellent, one somewhat complicated, and the other very simple and are promised another that has worked perfectly with one of the Cultivator housekeepers for many years, but which we will not be able to give until next week.

* * *

Cucumber Pickles.—Cover the bottom of the cask with common salt; gather the cucumbers every other day, early in the morning or late in the evening, as it does not injure the vines so much then as in the heat of the day; cut the cucumbers with a short piece of the stem on, carefully laying them in a basket or pail so as not to bruise; pour cold water over and rinse, being careful not to rub off the little black briars, or in any way bruise them, as that is the secret of keeping them perfectly sound and good for any length of time. Lay them in a cask, three or four inches deep, cover with salt, and repeat the operation until all are in; pour in some water with the first layer—after this the salt will make sufficient brine. Now spread a cloth over them, then a board with a stone on it. When a new supply of cucumbers is to be added, remove stone, board and cloth, wash them very clean, and wipe every particle of scum from the top of the pickles and the sides of the cask; throw away any soft ones, as they will spoil the rest; now put in the fresh cucumbers, layer by layer, with salt to cover each layer. When cask is nearly full, cover with salt, tuck cloth closely around the edges, placing the board and weight on top; cover cask closely, and the pickles will be perfect for two or three years.

Cucumbers must always be put in the salt as soon as picked from the vines, for if they lie a day or so they will not keep. Do not be alarmed at the heavy scum that rises on them, but be careful to wash off the board and cloth.

When wanted for pickling, take off weight and board, carefully lift cloth with scum on it, wash stone, board and cloth clean, and wipe all scum off the cucumbers and sides of cask, take out as many as wanted, return the cloth, board and weight and cover closely. Place the cucumbers in a vessel large enough to hold two or three times as much water as there are pickles, cover with cold water (some use hot), change the water each day for three days. Place the porcelain kettle on the fire, fill half full of vinegar (if vinegar is very strong add half water). Fill nearly full of cucumbers, the largest first and then the smaller ones, put in a lump of alum the size of a nutmeg, let come to a boil, stirring with a wire or wooden spoon so as not to cut the cucumbers; after boiling one minute, take out, place in a stone jar, and continue until all are scalded, then pour over them cold vinegar. In two or three days, if the pickles are too salt, turn off the vinegar and put on fresh, add a pint of brown sugar to each two gallons pickles, a pod or two of red pepper, a very few cloves, and some pieces of horseradish. The horseradish prevents a white scum from rising.

* * *

In addition, here is another, much simpler in manner of handling, and, while it probably will not keep the pickles so long as the above, yet may be of value to our inquirer.

Cucumber Pickles.—Leave a small stem on each cucumber. Place them in brine that will bear an egg, for twenty-four hours. Heat enough vinegar to cover the cucumbers. Heat them a few at a time in the vinegar, pack in a jar and pour the boiling vinegar over them. These will keep for months.

* * *

May we ask Cultivator housewives to favor us with tried recipes along the pickle line? This is the season of the year when they will be of value and if we can make a symposium on pickles a few weeks later, it will be appreciated. Let Cultivator housewives send in their recipes.

* * *

MARSHMALLOWS.

Editor Cultivator: Will you kindly favor me with a recipe for marshmallow filling for cake, also one for candy such as is sold by confectioners?—S. H. M., El Cajon.

Unfortunately, we are unable to get a formula for the making of the paste without using the marshmallow confection as a foundation, though we are positive there are other and possibly better recipes than the following. It is possible that we may secure them by another week but, in any case we ask Cultivator readers who may have a good marshmallow recipe to send in. However, we give this week two marshmallow cake recipes and the following recipe for the making of marshmallow candy, which may answer the purpose of the inquirer.

* * *

Marshmallow Cake.—Take any favorite recipe for cake and make two good layers, putting one in the oven before the other; flavor them with lemon.

Use banana marshmallows, if you can get them. Have them a little warm and place them as close as you can crowd them on the first layer of cake. Try to have the other layer just ready, so it will go together hot. Make a lemon icing of the white of one egg, same quantity of lemon juice and sufficient confectioner's sugar to make it the proper consistency.

This cake is better to stand a day or two before eating.

* * *

Marshmallow Paste.—Three-fourths cup sugar, one-fourth cup milk, one-half teaspoon vanilla; one-fourth pound marshmallows; two tablespoons hot water.

Stir milk and sugar together and boil without stirring for six minutes—counting the time from the moment it begins to boil all over the surface. Melt the marshmallows, and add two tablespoons of hot water, cooking over hot water until smooth, stirring meanwhile. Combine the two mixtures, and beat until stiff enough to spread. Add the vanilla last. If the sugar is stirred while boiling, it is apt to granulate.

* * *

The following is recommended for the confection:

Marshmallows.—Dissolve, by heating over a slow fire, eight ounces gum arabic in three gills water; stir and strain. Boil one ounce marshmallow roots in a little water for half an hour slowly. Add the gum solution with a half pound of loaf or powdered sugar; let cook slowly and stir constantly until it becomes a thick paste which will roll between the fingers. Add the well beaten whites of two eggs, stir for a minute or two and pour into a pan to cool. Sheets of white paper should be placed in the bottom of the pan with the ends projecting in order to lift out the paste, when it may be cut into little blocks and rolled in powdered sugar.

* * *

PICKLED LIMES.

Editor Cultivator: Will you kindly give me formula for pickling limes?—H., Pasadena.

So far we have been unable to find any such formula as asked and will ask the family of Cultivator readers to aid our inquirer with such recipe.

HOMELY HINTS.

Striped wall coverings are always effective in low studded rooms, as they seem to give height to the side walls.

Keep an oyster shell in your teakettle and it will attract to itself the earthy particles which would otherwise form a crust on the inside of the kettle.

After the juice has been squeezed from a lemon the peel and pulp should be saved for cleaning brasses. Dip the lemon first in milk and then in brick-dust and rub it well on to the tarnished brass.

Someone has said that hardwood or stained floors are more easily kept clean than a carpeted floor. This is not true. It is true, however, that it is harder to leave a hardwood floor unswept, because every particle of dust shows on a polished floor, and it must be swept daily. So it is usually cleaner than the carpet. To sweep a wood floor pin over the broom a clean crash cloth, slightly damp, having been wet and wrung dry. Sweep carefully and change the position of the cloth as it becomes dirty. Wash it before using again.

To get rid of the smell in a room newly painted place a vessel full of lighted charcoal in the middle of the room and throw on it two or three handfuls of juniper berries. Shut the windows, the chimney and the door. Twenty-four hours afterward the room may be opened, when it will be found that the sickly unwholesome smell will be entirely gone. The smoke of the juniper berry possesses this advantage, that should anything be left in the room, such as tapestry, etc., it will not be spoiled.

LITTLE HELPS BY THE WAY.

What's the use of worrying,
Of hurrying
And scurrying,
Everybody flurrying
And breaking up their rest,
When everything is teaching us,
Preaching and beseeching us,
To settle down and end the fuss,
For quiet ways are best?
The rains that trickle down in showers
A blessing bring to thirsty flowers,
And gentle zephyrs gather up
Sweet fragrance from each brimming cup,
There's ruin in the tempest's path,
There's ruin in the voice of wrath,
And they alone are blest
Who early learn to dominate
Themselves, their violence abate,
And prove by their serene estate
That quiet ways are best.
—Josephine Pollard.

VERY ACCOMMODATING.

Brakeman—"Now, then miss, get in quickly, please. The train is about to start."

Young Lady.—"But I want to give my sister a kiss."

Brakeman—Get in! Get in! I'll attend to that for you."—Exchange.

A DEFINITION.

"What is luck, mamma?" asked small Floramay.

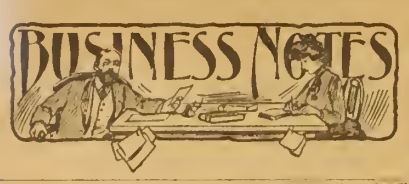
"Luck, my dear," replied her mother, " is what a man trusts to when he can't trust himself."

5 BEAUTIFUL SEA SHELLS FOR 10c
Mrs. Susan M. Mohr, Lealman, Florida
When writing advertisers mention Cultivator.

THE STAR OIL BURNER
ITS OWN GAS MAKER
(Patentees N. L. Rigby and S. S. Sprague
This Burner is offered to the public upon its merits. It is not an experiment, but a practically tested and successful invention. It has no superior for safety, simplicity, economy and durability. It is made without bolts, screws or rivets. It makes a pure dydro-carbon gas from low grade distillate oils, and gives you a fire as bright as the stars. Free from soot and smoke.
STATE AND COUNTY RIGHTS FOR SALE
For terms on burners or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation
When writing advertisers mention Cultivator.

WE GUARANTEE THE
White Lily Washing Machine
To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL.
White Lily Washer Co.
1539 Rockingham Rd. DAVENPORT, IOWA
When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.
When writing advertisers mention Cultivator.



THE STAR BURNER.

A good oil burner, one which makes but little smoke and one which is reliable, is a jewel in this country, where other fuel is high priced and where oil is low priced. None of these burners have been manufactured yet which are absolutely perfect, but the later inventions have been vast improvements over the old timers. One of these which is proving a most satisfactory burner—one of the very best—is the "Star," manufactured in Los Angeles. We saw one burning in an ordinary cook stove the other day, and will say that it is certainly a clean-burning, heat-producing and economical burner. There is almost no smoke, none could be seen coming from the chimney, and the ease with which it is started and operated is remarkable. The manufacturers, Messrs. N. L. Rigby and S. S. Sprague, say regarding its good points: A saving of 25 to 40 per cent over wood or coal, and over gas if you accomplish as much. A clean, bright fire, with an even, uniform heat at any required temperature. No poisonous vapors from the stove, and no more smoke or soot than from a wood fire.

HOEGEE'S HANDSOME HAMMOCKS

Hoegee says he has sold a "raft of hammocks" this season and in order to clean out quickly will sell the remainder at a third off. Drop a card to him and get further information, for you can take advantage of the liberal discount and order by mail.

Nothing is nicer under the trees or on the porch than one of Hoegee's hammocks.

OF INTEREST TO PURCHASERS OF FERTILIZERS.

Mr. A. C. Pickett, of Riverside, has been appointed deputy inspector of fertilizers for Southern California by the Director of the Agricultural Experiment Station of the University of California. Mr. Pickett will be on duty throughout the year, and will sample not only fertilizers in agents' warehouses, but will sample shipments made direct to the purchaser if notified by the purchaser of the arrival of the goods, and if the lot is large enough to justify the trip. All samples collected by Mr. Pickett will be forwarded to the Experiment Station at Berkeley, and will be analyzed in the order received. Any farmer desiring an immediate report of an analysis of a sample of his goods may obtain same by taking his sample and paying the analysis fee of $2.00, as specified by section four of the fertilizer law. Farmers' samples accompanied by the above fee will be given first order in the laboratory.

Rumor has reached us that there is an impression among the farmers that the analyses of the Fertilizer Control are made largely by students. The rumor is without foundation in fact. The analyses are made by the chemist in charge as far as possible. What work he does not have time to do himself is done by a carefully trained, accurate assistant. Moreover, every analysis is carefully scrutinized by the chemist in charge, and when there is any warrant for it analyses are duplicated by him. The Fertilizer Control laboratory is especially equipped for the work, and is not used at all as a laboratory for the instruction of students.—Geo. Roberts, in charge of Fertilizer Control.

Northern purchasers of fertilizer should report direct to Mr. Roberts at Berkeley.

Los Angeles Markets.

Los Angeles, July 26.

Butter.

Butter has taken a sharp advance during the week, now standing at 57½ for B. of T. with Valley at 55 to 57½.

B. of T. Creamery	57½
Valley Creamery, fancy	55@57½
Coast Creamery	47½@50
Fancy Dairy	45½@47½
Cooking, per lb	17@18

Cheese.

Cal. 3-lb. hand	15¼
Cal. Young America	14¼
California Anchor	13¼
Northern	12½@13
Eastern	16
Domestic Swiss	16½
Imported do	27½

Eggs.

Eggs have done the sky-rocket act during the last week. Practically every day since last quotations has seen an advance by the Produce Exchange. Some claim this bulling the market has been caused by desire on the part of dealers to force the storage into consumption and that the price to producers did not begin to come to the quotations which follow. However, the wholesalers are holding strictly to these prices in selling and it is estimated now that producers will soon be reaching full up to quotations. The hot weather is probably in part responsible for the big advance. Some dealers are found who prophesy that before the week closes thirty cents will be realized for fancy ranch.

Eggs, fresh ranch	25@27
Eastern and Storage	22@23
Seconds	21

Poultry.

Practically one cent a pound decline is the result of the week in poultry.

Fryers, 2½ lbs	14
Broilers, under 2 lbs, per lb	14
Young Roosters, per lb	12
Hens, per lb	11½
Ducks, per lb	10
Turkeys, per lb	17@18
Geese	9@10

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	6.00
Prime Steers, cwt	4.00
Cows, cwt	3.00
Calves, cwt	4.75
Sheep, ewes, per head	3.50
Lambs, do	3.00
Wethers, per head	4.00

Potatoes.

The potato market is in a most demoralized condition, being glutted with large quantity of ordinary stock. Even the fanciest of stock commands slightly above $1.

Northern, per ctl	1.25
Locals, per ctl	75@1.00
Sweets, per ctl	2.00@3.00
Sweets, new	3.00@4.00

Vegetables.

Onions, yellow, per cental	75@.85
Onions, Silver Skins, clt	60@75
Onions, Texas Bermudas	1.00
Beets, per 100 lbs	75
Cabbage, per sack	35@50
Parsnips, per sack	60@65
Bell Peppers	04
Cucumbers, per crate	35@40
String Beans	1½
Wax Beans	1½@2
Green Onions, doz bunches	25@30
Carrots, doz. bunches	25@30
Turnips, doz. bunches	25@35
Garlic	20
Peas, per lb.	4@5
Rhubarb, per lb	04
Egg Plant	4@5
Chili Peppers, green	2@3
Chili Peppers, dry	15
Tomatoes, local	40@60
Asparagus	8½@10
Parsley, per doz bunches	30@40
Summer Squash, per bx 20 lbs	10@25
Green Corn, per sack	75@1.00
Butter Beans	04

Citrus Fruits.

Valencias	2.00@5.00
Lemons, standard	1.00@1.25
Lemons, fancy	2.00@2.50
Grapefruit	75@1.00
Grapefruit, seedless	1.25@2.00

Fresh Fruits.

Strawberries	4@5
Apricots, per bx	40@75
Peaches, per box	50@75
Figs, per box	50@65
Blackberries	4@4½
Muskmelons, Ponies	1.75@2.00
Standards	2.00@2.25
Watermelons, per lb	¾@1¼
Grapes, Thompson's Seedless	1.00
4-Tier Alexanders	1.25
Plums	60@1.25
Nectarines	65
Logan Berries	6@7

DRIED FRUIT.

Regarding the condition of the dried fruit market, the Cultivator representative had an interview with Percy R. Wilding, of the Wilding Brokerage Co., 317 Towne avenue, Los Angeles, and he gave us the following:

Apricots.—A very little trading has been done in this line, a difference of about one-half cent between buyer and seller existing. Buyers offer five and a quarter to five and a half cents in bags for best grades of Southern California apricots. Crop estimates south of Tehachapi place this year's output at 225 to 250 cars, fully one-half of which is off-grade goods.

Peaches.—Market very firm, showing from one cent to one and a quarter cents in advance of early quotations.

Today's market rules for Northern California goods as follows: Choice, 7c; extra choice, 7½c; fancy, 8@8½c, all in twenty-five pound boxes, f. o. b. Northern California shipping points. Crop will be nearly as large as early estimates. Packers all look for still higher prices.

Prunes.—Market very firm on three to three-and-a-half cent bag basis for Santa Clara goods. Outside goods one-quarter cent less. Packers report very hard work contracting with growers who realize the shortage of crop and are holding goods for extreme high prices. While today's prices look high, compared with last year, there is no question but that prices will be maintained and higher market is looked for.

Evaporated Apples.—No quotations out so far on new crop goods. San Francisco packers report few coming in market which are quickly absorbed by local consumption at a round seven and three-quarters for boxes on choice stuff.

Pears, Plums and Nectarines.—No future prices named.

Walnuts.—No material change in local situation. Same applies to almonds.

Honey.—Very little trade in this line, as there seems to be a difference of one-half cent between producer and buyer. Output of honey will not be as large as early estimates.

Raisins.—Present indications are that the raisin market will have a much firmer tone this season as a result of the growers combining as well as the packers for the mutual interest of maintaining the raisin market on a firm basis. Reports from the North show that the growing crop is much lighter than last year and, with light carry over of spot goods, firm prices are granted on both spot and futures.

Figs.—All the leading packers have issued quotations but as it is a little early for this line of fruit very little trading has been done, prices ruling about the same as last year.

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	2.75@2.85
Small Whites	3.15@3.35
Black Eyes	2.50@2.75

Nuts

Almonds, paper shell	18@20
Almonds, soft shell	18@20
Peanuts, California	5@6
Peanuts, Eastern	7½@9
Walnuts, No. 1 softshells	14@15
Walnuts, hardshells	10@12

Honey.

Honey, comb, frames	10@15
White strained, per lb	5@5½
Amber	4@5
Beeswax	23@25

Hay.

Barley, new	$7@9
Alfalfa, local new	$10@11.50
Alfalfa, northern	10@11.50
Wheat, new	10.00@11.00
Tame Oat, new	$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.50@1.55
Barley	$1.00@1.02½
Corn	1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	$1.20
Feed Corn Meal	$1.60
Middlings	$1.35
Cracked Corn	$1.55
Corn	$1.50
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

U. S. CATALOGUE.

The Vermont Farm Machine Co has just issued a hundred page catalogue of its U. S. Cream Separators. It is full of valuable information to dairymen. A request will secure it.

San Francisco Markets.

San Francisco, July 26, 1905.

DAIRY.

Butter is two to three cents higher than last week. On general quotations, though, the market is much unsettled. Some sales of fancy creamery have been reported at twenty-four cents, while others have maintained the top notch at twenty-six cents.

BUTTER—Per lb:

Creamery, fancy	25	@26
Creamery, good to fancy	23	@24
Dairy, choice	20	@22
Store	17	@18

CHEESE—Per lb:

Cal. Creamery, mild new, ex.	11	
Do, choice	9	@10
Young American	12	@13
Eastern, N. Y., Cream	17	@18

EGGS.

The egg market is exceedingly firm, being comparatively easy to secure top quotations. All offerings of selected ranch are quickly picked up.

EGGS—Per doz:

Ranch, selected large	27	@27½
Do, good to fancy	24	@26
Store	18	@22
Eastern, extra	22	@23
Eastern, firsts	19	@20
Eastern, seconds	17	@18

POULTRY.

Arrivals of poultry have been very liberal during the past week, tending to depress the market, and nearly all quotations are lower than last week. Young stock especially easy, two carloads of young eastern stock having been received during the week.

POULTRY—Old Roosters, per doz., $4@4.50; young Roosters, $4.50@6; Frytrs, $3@3.50; Broilers, $2@2.50; Hens, small, $4@5; large, $5.50@6; Live Turkeys, per lb., 18@20c; Spring Turkeys, 23@25c; Ducks, old, $3.50@4; young, $4@4.50; Geese, per pair, $1.50; Goslings, $1.50@1.75; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@1.75.

FRESH FRUITS.

Apples, per box, fancy, 90c@$1.25; common to choice, 40@75c; Crab Apples, per box, 50c@$1.

Apricots—Per box or crate, 35@60c; bulk, per ton, $20@30.

Figs—Per large box, $1.25@1.75; small box, 75c@$1.

Pears—Per box, Bartlett, No. 1, $1.50@1.75; common, 65c@$1; other varieties, 50@85c.

Peaches—Per box, 35@60c; carriers 50@85c; basket, 50@60c; large boxes, 50@85c; bulk, per ton, Freestones, $27.50@35; Clingstones, $50@60.

Plums and Prunes—Per small box or crate, 35@65c, as to variety; bulk, per ton, $10@12.50.

Nectarines—Per crate or box, 75c@$1.

Grapes—Per box or crate, Seedless, 65c@$1; Fountainbleau, 65c@$1; Muscats, 75c@$1.

Cantaloupes—Per crate, Southern, $1.50@2.25; River, $2.50@3.50; Watermelons, per doz., $1@3; Nutmeg melons, $1@1.50.

Blackberries—Per chest, $1.75@3.

Loganberries—Per chest, $5@6.

Raspberries—Per chest, $3.50@6.

Strawberries—Per chest, Longworths, $3@5; large varieties, $2.50@4.

VEGETABLES.

VEGETABLES—Tomatoes, per box, 50@75c; Green Peppers, per box, Chile 65c@$1; do, Bell, $1.25@1.50; Okra, per box, 90c@$1; Garden Beans, per lb Green, 3@4c; do, Wax, 3@4c; do, Lima 3@4c; Garden Peas, per lb, 3@4c; Cucumbers, per box, 50@85c; Summer Squash, per box, 40@65c; Egg Plant, per box, $1@1.25; Garlic, per lb., 3@4c; Green Corn, per sk, $1@$1.75; per crate, $1.50@2.25.

ONIONS—Per sk, Yellow, $1@1.15.

POTATOES—Per ctl: River Burbanks, in boxes, 85c@$1; in sks, 50@75c; Salinas Burbanks, 80c@$1; Early Rose, 40@55c; Garnet Chile, 40@55c.

DRIED FRUITS.

Dried fruit market has very materially strenghtened all along the line:

Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb. as follows:

Apples—Evaporated, 1905 crop, choice, 7½@8c; Sun Dried, nominal.

Peaches, 1905 crop—Crawford, fancy, 7¼@7½s; choice, 6¼@6¾c; standard, 6@6¼c; Muirs, fancy, 8¼@8½c; choice, 6½@7; standard, 6¼@6½c.

Prunes, 1904 crop.—Sack basis, f. o. b.; for boxed goods add ¼@½c; 40s to 50s, 4¼@4½c; 50s to 60s, 3½c; 60s to 70s, 3c; 70s to 80s, 2½c; 80s to 90s, 2¼c; 90s to 100s, 2c; 100s to 120s, 1¾c; 1905 crop, 3@3½c basis for Santa Clara four sizes, other section ¼c less.

Apricots, 1905 crop—Royal, fancy, 7¼@7½c; choice, 5¾@6½c; standard 5¼@5½c; Moorpark, nominal.

HONEY AND BEESWAX.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

HOPS.

The price of desirable stock is nominal at 24@27½c per lb, according to quality, many producers demanding thirty cents.

LIVE STOCK.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@5½c; rough heavy, 4¼@4½c; common, 3½@4c.

HAY AND FEEDSTUFFS.

HAY—Per ton: Wheat, $9@13.50; Wheat and Oat, $8.50@12.50; Oat, $7.50@11.50; Barley, $7@9; Clover, $7@10; Alfalfa, $6@10; Stock, $5.50@7.50.

New crop Wheat, $9@13.50; Oat, $5.50@11; Wheat and Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice grades, per ton, $30.50@31.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice stock, per ton, $31@32.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $22.50@23.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $25.50@28.50.

FLOUR AND CEREALS.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.45@1.55; White Milling, good to choice, $1.57½@1.65.

OATS—Good to choice, White, nominal; Red, $1.22½@1.30 for new crop.

BARLEY—Choice, No. 1 Feed, 98¾c@$1.01¼; and some fancy up to $1.02½; off grades, 93¾@97½c; Shipping and Brewing nominal; Chevalier, nominal.

CORN—Good to choice, per ctl: California, new large Yellow, $1.45@1.47½; small do, $1.55@1.62½; White $1.37½@1.42½; Eastern Yellow, $1.40@1.45; White, $1.40@1.45; mixed, $1.40.

RYE—Good to choice, per ctl., nominal; new, $1.45@1.50.

CITRUS MARKETS

The market on Valencias continues in very satisfactory condition. The auction markets are showing considerable more strength and higher prices for these. The Western markets are demanding everything in sight of desirable sizes, with a decided preference for the medium to small sizes. Moderate shipments have been going forward, not more than enough for the demand, and prospects are for continued favorable conditions.

The lemon market has remained in good shape, but cooler weather in all parts of the country has cut off the extremely heavy demand, and prices have eased off somewhat from the top prices prevailing a week ago. Sales are still showing high prices and very satisfactory results are being obtained for good stock, both at auction points and in the Western markets.

NEW YORK.

Valencias commanded fair prices at Monday's sale. Seven cars were sold, ranging from 3.75 to 5.10 for fancy goods. Choice 3.25 to 4.15. A few sweets are offered, going at about 2.50 to 3.00. The effect of the hot weather is apparent in much of the fruit arriving, condition being badly off. This more particularly applies to the sweets than to the Valencias.

At Tuesday's sale only three cars were disposed of, almost entirely Valencias, which ranged from 3.10 to 5.05. Some few sweets were sold around the 3.00 mark. Some buying is now being made for storage purposes, such sale being limited to very small quantity. All good fruit commanded a high price and met with a quick sale.

At Wednesday's auction ten cars sold. Market steady on all varieties, though Valencias are practically the only fruit offered. Fancy grades brought from $3.50 to $5.50, even standards selling at $3.40 to $4. A few Sweets that were sold brought in the neighborhood of $3. California lemons continue to bring high prices, fancy selling close to the $5 mark. Choice brought from $3.50 to $4. Grapefruit is the only indication of weakness, selling about $1.85 for fancy and some choice selling as low as 50 and 60 cents.

Wednesday's foreign lemon sale aggregated 13,000 boxes. Stock was in good condition but market indicated a slightly weaker condition, selling about 50 cents lower than formerly, which was due, partly to the weather, which was much cooler.

BOSTON.

Three cars sold on Monday, weather being cool and more favorable for a stronger condition of the market. Valencias ranged from 3.60 to 5.00, lemons ruling around the 5.00 mark.

Only one car sold at Tuesday's auction, which was entirely lemons. They remained close to the $5.00 mark. Weather very warm and pleasant.

Only two cars sold at auction Wednesday. The weather has become very fine and pleasant. Choice Valencias brought $4.50@5; California Lemons, $3.50 to $4.

PHILADELPHIA.

Four cars sold at Monday's auction. Market very firm as to Valencias, fancy bringing 3.95 and choice close to 4.25. Lemons ranged about the 4.50 mark.

Three cars sold on Wednesday. Sale almost entirely of Valencias, nearly all selling for above $4.

* * *

Shipments of citrus fruits since November 1st aggregate 28,042, of which 3449 were lemons.

The dairies about the city of Berkeley are compelled to submit every cow in their dairies to the tuberculin test before they are permitted to have a license for selling milk in that city. The ordinance has existed for some time but has not been enforced, but the present board of health proposes to fully enforce the ordinance.

Hay, Grain, Potatoes

Car Lots

HOWARD BROKERAGE CO. FARM ORCHARD & VINEYARD PRODUCTS 170 CENTRAL AVE HOME 1360 MAIN 1545 LOS ANGELES, CAL.

Will Buy or Handle on Commission Direct Connection with Largest Consumers in Southern California

When writing advertisers mention Cultivator.

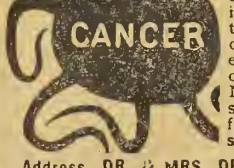
IN WOMAN'S BREAST ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.

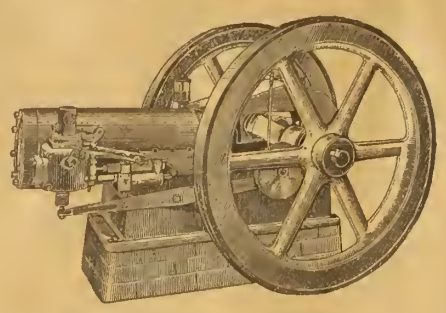


Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.
Please Send to Some One with Cancer

Factory Direct to User

IRRIGATION, POWER AND ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST

MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P.

CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED

BURNS CHEAPEST FUEL

BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.

908 to 932 No. Main St., Los Angeles, Cal.

SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 — 242 to 248 So. Los Angeles St., Los Angeles, Cal.

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOOOWARO PATENT MACHINE BANDEO PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BOREO WOOO WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. — San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

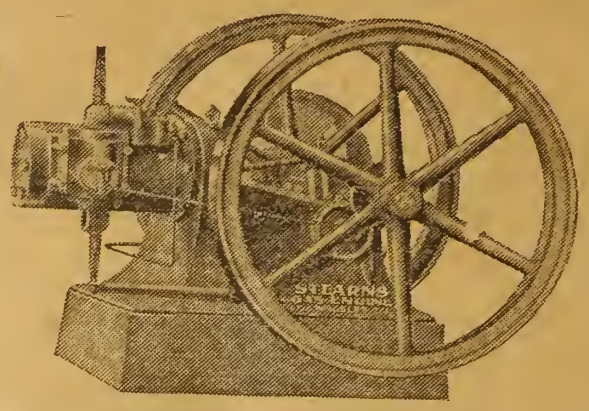
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

Simplicity HOME MANUFACTURE Economy



A first-class home-manufactured Gas Engine which is proving a winner. The mechanism on intake valves allows spring to lengthen and valve to work easier and take a larger charge when needed.

A new idea—another step in advance—is the sparker which operates only when necessary to explode the gas and gives same length of time in contact whether early or late spark.

WRITE FOR CATALOGUE AND INFORMATION

STEARNS GAS ENGINE WORKS

1001-3-5 NORTH MAIN STREET
LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.

313 N. LOS ANGELES ST., LOS ANGELES, CAL.

Write for samples, prices and booklet

SHASTA ROUTE

is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

$35.00 ROUND TRIP

Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc.,

129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants

California Cultivator

LOS ANGELES SAN FRANCISCO

AUGUST 4, 1905

The heart is hard in nature, and unfit
For human fellowship, as being void
Of sympathy, and therefore dead alike
To love and friendship both, that is not pleased
With sight of animals enjoying life,
Nor feels their happiness augment his own.—Cowper.

CIRCULATION EXCEEDING 10,400

Deep Cultivation Creates Wealth

To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

FLYO-CURO

Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL

The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

When writing advertisers mention Cultivator.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

Must Hatch Incubators and Brooders

HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

The Big Incubator a Success

The Mammoth Incubator at Bamboo Ranch is bringing out a fine hatch Eggs for the next hatch may be sent at once. Hatching for the trade is our specialty. **Four Good Incubators and Brooders for Sale.**

2000 Barred Rock chicks just hatched will also be disposed of

BAMBOO POULTRY RANCH

Home Phone Glendale 701
on Los Angeles Exchange

AIKEN & COE, Proprietors
GLENDALE, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at 1903 Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.

SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 **Los Angeles, Cal.**

RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT

Calfalfa Meal

ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings or Oil Cake meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application.

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application.

MILLS
West and Nielsen Aves

California Stock Food Co.

FRESNO, CALIFORNIA

OFFICE
121 FORSYTH BLDG.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 5 LOS ANGELES, CAL., FRIDAY, AUGUST 4, 1905 Subscription $1 a Year

Is Deep Orchard Cultivation Beneficial?

One Case Where it Has Paid Exceedingly Well to Stir Up the Soil and Incidentally Do a Job of Severe Root Pruning.

"Well, really, I can not explain to you whether subsoiling which is so deeply done that large numbers of the good sized roots are cut off causes the roots to send out a number of other and smaller roots into new soil and thus secure new feeding ground or what the scientists' explanation may be of results following this deep plowing. I am simply a practical man who used deep, subsoiling methods in which I tore out vast quantities of roots and received as a result far healthier, stronger-looking trees, setting a larger quantity of fruit than ever before in the history of the orchard. Therefore, I believe in root pruning by subsoiling. For the scientific explanation, you must go to others."

This, in a few words, is the position taken by Mr. B. B. Wuest, of Alhambra, to the writer in his orchard a few days ago. We had heard of his efforts to improve the soil condition by subsoiling and wishing some further information along this line of a former article under the above heading, we boarded the electric car and were landed at his front door, when we proceeded to walk down through the orchard in question. It is but a few miles from the center of Los Angeles, and along its front extends the Monrovia electric line. Hence the values under the present real estate movements all about the city are such that Mr. Wuest has decided that there is greater value in his orange grove as residence property than there is to be used in producing oranges. Consequently, cement sidewalks and oiled streets, gas pipes, water pipes and electric poles and other features familiar to the present real estate movement were on all sides and in this case it was not without sadness that we noticed it.

The orchard trees, we found, were loaded with fruit, trees very dark green and thrifty looking. There are twenty-four acres in the place from which this year there were marketed six thousand boxes of fruit at fair prices. Notwithstanding this, property valuations, all the way from $7 to $30 per front foot, make the real estate movement seem more attractive to owners of such property.

But, to return more directly to the object of our errand, we sought out Mr. Wuest, who, with shovel on shoulder, was directing the work of furrowing and irrigating. Hence, we were able to observe the practical side of the work better than usual. From him we secured the history of the trees and the advantage which he deemed the deep cultivation to be giving to him. First, he bought the place when the trees were three years old, maintaining it under the original form of cultivation, running six furrows between rows at each irrigation, some times the water barely reaching the lower end of the row before having to be shut off and turned to the next row. After twelve years of such treatment, the trees had become of little value as producers of first class fruit and the owner determined that something must be done to restore them, or else uproot them. Getting some information regarding deep culture and believing it would be beneficial to the trees to tear off many of the surface feeding roots and loosen up the plow sole which had formed, he purchased one of the strongest and best made subsoiler plows and, putting four strong mules on, put it in fifteen or sixteen inches in depth, driving the horses as close as he could to the trees without injury to the limbs, and went from end to end of the orchard, snapping off large roots. This first subsoiling was done in the fall and was followed by a long rain, which was very fortunate. On being asked if the first effect of this subsoiling was not to set back the trees until they recovered from the shock of so many large roots being cut, Mr. Wuest remarked that entirely contrary to that, from the very first, the apparent effect on the trees was such as to indicate an immediate improvement. The following spring the trees set one of the largest crops in their history and today a better looking orchard is hard to find, though the owner apologized for its condition at the present time, as he remarked about the corner lot feature having attracted more of his attention recently than orchard culture.

Natural Growth of Navel Orange Tree.

One of the first questions that we asked was "how would you handle a young orchard if you were to start in with trees from the nursery and carry it up to the same age as this one?" and he at once replied that he would first use the subsoiler, before planting, and continue its use before every irrigation. By that means he would keep the roots where he considered they would do the most good and keep the soil open to the admission of the air so that the air would reach the lower levels, thus being valuable to the plant food there contained and in a period of a very few years he would, he believed, have a very magnificent property.

As to the time of year of using the subsoiller, he answered, "At all times," but almost immediately qualified by saying "Of course, in spring time when setting fruit or growing the very young fruit, or after a rain, when the ground is very moist, common sense would dictate keeping out with such deep culture." But in the fall, when the ground is dry and the fruit is large enough not to be affected by the shock, and preceding each irrigation, he would use the subsoiler. Instead of running six furrows between trees, he now runs two furrows and he considered those two furrows do vastly more good than the six formerly did. The work of preparing for the water is much greater than before, but the work of cultivation is much less than formerly so that he considered the question of economy does not enter into the discussion in considering the two methods of work.

In detail, his method now is to put on four good stout mules or horses, put the subsoiler fifteen or eighteen inches deep, going two ways through the orchard on either side of each row. This makes a square around every tree in the orchard. The ordinary turning plow is then taken with two horses at-

(Continued on Page 115)

an interesting story hangs. Its first chapter concerns the 'insectorium.'

The unpretentious building with the pretentious name recently made its appearance on the public gardens side of the Agricultural department. The Insectorium has been erected in the interests of science, and for the development of the fruit-growing industry. This purpose is not fulfilled, as might at first be thought, by providing a home for indigent fruit flies, after a vigorous orchard career. On the contrary, the insects have been gathered in to grow fat and flourish, so that an alien insect may act the part of destroyer. When, through the instrumentality of the State Entomologist, the last consignment of fruit-fly parasites was introduced from Brazil, the Australian season synchronising with their heyday in South America was unfavorable to them. There were few fruit-flies carrying on business in the State, and, consequently, the parasite imported under contract, finding no scope for its peculiar abilities, languished and died of hunger or home-sickness, or both. So that this should not occur again, the Insectorium was erected and at present some 10,000 odd flies are thriving under State management and control.

The second half of the story is supplied by Mr. Compere.

"I broke my outward journey at Suez," he remarked, "and proceeded to Palestine—not on a pilgrimage, but to secure some red scale parasites for the California government. I shipped a collection and set sail for Spain. Two years previously I had located the insect which parasitizes the codling moth in Spain, and I collected 4000 specimens for the California government. That was the first time codling moth parasites had been introduced into California and I was pleased afterwards to hear that the consignment arrived in splendid condition without the number being depleted by deaths. When I arrived in California I had a talk with Mr. Ehrhorn, the State Entomologist, and he told me that the parasites which had been kept in confinement had reproduced themselves in 44 days.

"After discharging these two engagements, I set about securing the parasite of the fruit fly. For this purpose I proceeded to Brazil, landing there on March 19th. It was a good time of the year—early spring—for my purpose, and I had no trouble in collecting a sufficient number of the insects. I secured 1000 members of the Staphlynidae and a number of Ichneumon wasps, both of which are terrors for fruit flys. The former are beetles in their fully developed state, and bred on the way out. Their daily food allowance has been a pint of blowfly maggots, and the way they attacked them afforded an indication of the manner in which they will demolish the fruit fly. The other insects are in the chrysalis stage of their existence, and as they traveled at sea in the refrigerator chamber of the boat, they have not yet hatched out.

"The consignment arrived in splendid condition, and the beetles have been liberated in the Insectorium. From observation, I feel certain that in a little while, with so much of their natural food available, an interesting struggle will commence. Personally, I have not the least doubt that they will be successful."

The fearful destruction which the fruit fly has visited upon the fruit interests of Australia is such that we wish for that country the most complete success from Mr. Compere's work with the parasite.

PRUNE OUT THE BERRIES.

This is the time of year to prune out the blackberries, dewberries and raspberries and other vines of that class. Cut out all canes which bore fruit this year, clean up all the ground, burn the old brush which may be infested with scale, spray the young shoots which will bear next year's crop with whale oil soap, or even strong soapsuds, to kill off the young scale which may be on them. Then manure heavily and do not forget that the blackberry, especially, is a gross feeder.

Do not tolerate the long canes but cut back to three or four feet and force the branching.

Don't wait till next spring to cut out the old canes. Their usefulness is gone forever and the strength they now require may just as well go into new canes, thus making more bearing wood next year.

CHIMNEY SOOT OF VALUE.

Chimney soot, says the American Fertilizer, is one of the richest fertilizers known. That from coal is very rich in ammonia. When coal is burned ammonia is set free, and during the various changes which take place during the process sulphite and carbonate of ammonia are both formed.

Soot is a highly compound substance, containing in its composition not only ammonia, but lime, sulphuric acid, nitric acid, acetic acid, chlorine and iron, nearly all of which are valuable, directly or indirectly. The value of soot is well known in England, where it sells for about 10 pound a ton, or about $48. It is often thrown away as worthless by those who do not know its value, but careful farmers should save every ounce for use. Sprinkled around some kind of plants, it often prevents attacks of insects and the rains then carry it down into the earth, where it does duty as a fertilizer. Soot from coal has been once thought to be a very worthless substance, but experience and science have taught us to know better.

NATIONAL RECIPROCITY CONVENTION.

The Committee on Arrangements for the National Reciprocity Conference, to be held in Chicago August 16th and 17th, hereby announces that, while the call for delegates has been mailed to all national, State and local agricultural and live stock associations, whose addresses could be obtained, it is not the intent to deny a seat in the convention to any farmer or stockman who desires to manifest his interest in the matter by taking advantage of the reduced railway rates to be in force, and attend the sessions of the convention.

It is to be hoped that every effort will be made to secure the presence of representative men from every part of the corn belt and contiguous territory. This section in particular has a deep interest in the future of the European markets for our farm products.

The committee not only desires that all interested communities send a delegate or delegates, but that every individual farmer or stockman in America who hopes to see this movement to broaden the outlet for our grains and meats succeed shall enroll his name upon the lists now being made up in the committee's office.

The movement for this convention is occasioned by the tariff of Germany which discriminates against American farmers.

FRUIT OUTPUT REDUCED.

The output of apricots will be much lower than anticipated, and a correspondingly higher price will prevail than was feared at one time. Regarding the condition as observed from the Santa Clara valley, we note the following from the San Jose Mercury:

"Large sales have been made in Europe and America at very low prices. These sales have been based upon the "outside" supply from Vacaville and Winters and the southern counties. These localities have nearly cleaned up, and as usual the prices have advanced for Santa Clara 'cots. The outside apricots have sold from 5c to 6¼c to the trade with about 7c for what is called Fancy Royal. These prices are unnecessarily and absurdly low. They were made by those who do not own or grow a pound of 'cots and under the impression that the crop would be enormous. It now develops that the crop of 'cots will be less than that three years ago. This is due in part to sunburn and an increased shrinkage of ½ pound at least.

Prices today in the market are: Prime, 6c; Standard 7c; Choice, 8c; Fancy, 11c to 12c.

Regarding prunes: "It seems now to be the universal opinion that the fruit crop of all kinds will be below the earlier estimates. As a consequence all buyers and packers have increased the price to the trade, and also to the producer.

The commercial packers are not offering freely, as they do not feel sure of buying of the grower at anything less than a 3-cent net base. We hear of some offers to the grower at that price and feel sure the trade price will be raised from ¼ to ½ a cent.

The secretary of the agricultural society has made up a list for approval of the State Board of Examiners, the balance of all claims incurred by the Fair Association. The payment of these claims will free the society of all debts for the first time in many years. Some of the warrants are drawn in payment of debts contracted ten years ago.

A dispatch from Washington states that the Forest Service is planning to collect tree seeds on a large scale, to be used in the work of reforestation in the work of western reserves. Nursery work, or planting, is now in progress, or soon will be taken up in the Santa Barbara, San Gabriel, Modock and Warner mountain reserves in California, besides reserves in Colorado, Nebraska, New Mexico nad Utah.

IF YOU SEE THE

NEW POMONA PUMP

Work, you will have no other under any consideration.

The long, easy stroke without any jerk or jar, makes them popular at once.

Built on strictly mechanical lines, having a direct center pull on the rods.

Where one goes others follow and we are rapidly taking the country.

Every customer is a pleased customer and our best advertising medium.

Write for our new catalogue.

Pomona Manufacturing Co., Manufacturers

POMONA, CAL.

When writing advertisers mention Cultivator.

Half Rates EAST

SALT LAKE ROUTE

One Fare Round Trip to New York, Chicago, St. Louis, Memphis, Kansas City, Omaha and all Eastern Points.

CHOICE OF ROUTES RETURNING

PORTLAND EXPOSITION—

$60.00 Round Trip, limit 90 days. Going via Salt Lake City and the famous Columbia River, returning via Shasta Route and San Francisco. Stopovers allowed.

$40.00 Round Trip, limit 21 days. Going and returning via Salt Lake City and Columbia River.

Personally Conducted Tours to Yellowstone Park, Portland Exposition and Alaska. Information gladly given at City Ticket Office, 250 South Spring Street, Los Angeles. Both Phones 352, First Street Station, Home 490, Main 4095.

When writing advertisers mention Cultivator.

Best Prune Dip — GREENBANK — Powdered Caustic Soda and Pure Potash

T. W. JACKSON CO., 125 California Street SAN FRANCISCO

When writing advertisers mention Cultivator.

DEEP WELL PUMPS SHALLOW WELL AND POWER PUMPS

OAK TANNED CUP LEATHERS.

A. T. AMES GALT, CALIF.

VARIETY OF PEAS FOR GREEN MANURING.

The Cultivator received some time ago request from a number of orange growers at Redlands stating that sample of "Canadian Marrowfat peas" had been mailed to us and that they were recommended to them as being the equal or superior to the Canadian white field pea and that they had failed to find the latter and asked opinion as to the desirability of the peas sent.

The peas sent to us were submitted to a number who were qualified to judge and almost invariably they decided that instead of being a "marrowfat," which they were not in any respect, they were a mixture of the Canadian white field and the Prussian blue, the greater proportion of them being the pure Prussian blue pea. Regarding the desirability of the pea for green manuring, readers may note in the letter below from Mr. James Mills, of Riverside, that it is the variety which he will most largely plant this season. Those who have been asked regarding the two varieties and the comparative values of them, usually say that they have a slight preference for the Canadian white, partly because it gathers the nodules fully as well, has heavy top and root growth, and the seed being smaller, at the same price is slightly more economical. However, we have learned from market quotations on peas that the very best that can be secured on the Canadian white, f. o. b., Los Angeles, jobbers price to the wholesalers, is three to three and a quarter cents, while the Prussian blue have been sold, f. o. b. Los Angeles, in car lots, at $2.40 per hundred, or, in ton lots, at $2.50.

Regarding the desirability of these two varieties of peas, we wrote to Mr. James Mills, also to Mr. J. B. Neff, and asked their opinions. Their letters follow. Mr. Mills says:

"I cannot advise you as to the Canadian marrowfat peas. I did use them some ten years ago. I did not succeed, however, with them, but my want of success may not have been the fault of the peas. I am using only the common Canadian field pea and the Prussian blue pea. There is no question about the superiority of the field pea over all others. If these can be had it would be wise to get them. I am using this year twenty-seven different kinds of cover crops. I will be better able another year to advise you in this matter. I would say, however, that the Canadian field pea and Prussian blue pea have no superiors in my judgment. We had splendid success with them last year. This year we purchased 60 tons of the Prussian blue peas because we could buy them cheaper than the others and because we are entirely satisfied with the results obtained from this seed heretofore.—James Mills, Supt. A. H. F. Co.

On the same points, and especially regarding the difference between the Marrowfat and the field pea, note the following from Mr. Neff:

"I do not think there would be much difference in the fertilizing value of the Marrowfat peas and the Canadian field peas, provided the peas were equally thick on the ground. But the Small White, or Canadian field pea, will require a less quantity of seed per acre to get a good stand, as the seed is smaller, 60 lbs. per acre being sufficient.

There is but one kind of Canadian field pea, as far as I know, and that is a small white pea, always round as shot, and not wrinkled like the Marrowfat or other table varieties. The Canadian field pea is known in the northern part of the State as "Small White", or "Niles Peas," possibly because they are grown largely near Niles.

The home grown seed has not given me quite the satisfaction the eastern grown seed has, as it is not usually so plump and does not germinate so well."—J. B. Neff.

Many planters will this year take the precaution of inoculating all the seed with the nitro-culture bacteria, which will cost about $1 per acre, additional to the seed. Of course, where the soil has been used for the same variety of cover crop before, and inoculated at that time, it is probable there may be sufficient in the soil so inoculation each year is unnecessary. In fact, it is said to increase from year to year and one method of inoculating soils is to take samples of the soil from an old field which has cultivated peas and simply scatter over the ground of the new field.

Regarding the amount of seed required per acre, the usual planting is about sixty pounds for the solid acre. By solid acre, we mean the actual surface planted, figuring out of course, the space between rows when planted in orchards. Some planters, however, maintain that the Prussian blue may with advantage be planted slightly heavier than the little white, but this is on account, principally, of the fact that the seed are larger, consequently fewer number per hundred pounds. But as to growth, both root and top, there seems to be no choice between the two.

As to vetches and lupins, there seems to be less interest this year than formerly, but this is probably on account of inability to get the seeds in quantity, as can be done in the case of peas.

$1500 FROM TWO-BITS.

Mr. Musser told us a few days ago of a case of increase which we believe has few equals. A gardener near Long Beach produced this year $1500 worth of tomatoes from twenty-five cents worth of seed. Of course, the tomatoes were early and netted to the grower large prices, but no more than many another grower could have netted in the market at the same time, but it certainly looks good to the outsider to see a gardener getting such increase as that.

NATIONAL BEEKEEPERS.

The next National Beekeepers' convention will be held at San Antonio, Texas, October 28th to November 1st.

A STATE INSECTORIUM.

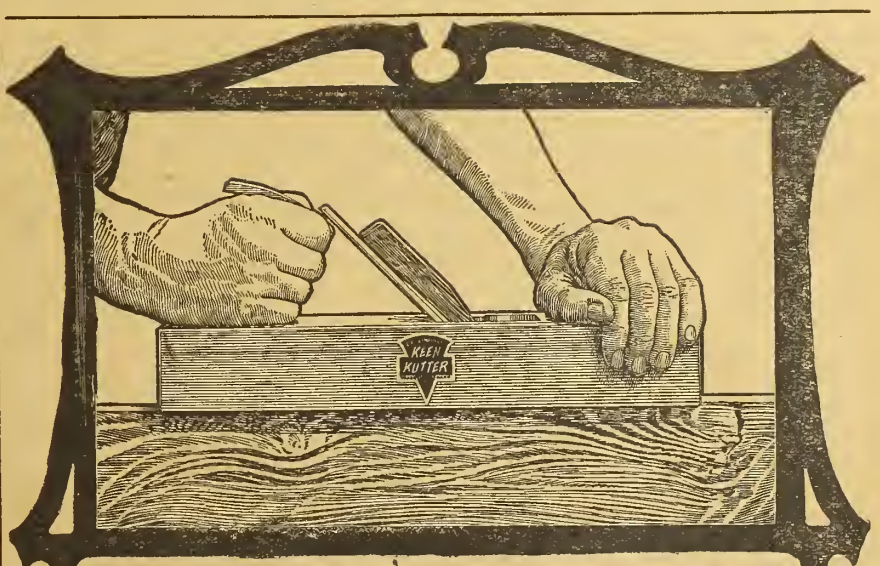
When in San Francisco some time ago, it was our pleasure to visit the office of the State Horticultural Commission, at which time we noted the crowded condition of the offices. In fact, the principal reason for the existence of the rooms would appear to be at first glance that of an insectorium, for on the walls are cases of specimens and all about all three of the rooms are cages used for the breeding of beneficial insects and other cages for the breeding of injurious insects for "feed" for such of the beneficial parasites as may be on hand for breeding purposes. This crowded condition is to be regretted and with it all is the more important fact that the rooms are not fitted for the work in hand. Both Mr. Ehrhorn and Mr. Carnes referred to the fact that as good work as should be done was not possible under the conditions which faced them and they regretted the fact that the State did not purchase a plot of ground with a small building on it for their uses.

In this respect, we are behind that far-away country of Southwestern Australia, for we note, from the Western Mail, published at Perth, in its issue of June 3d, a description and illustration of the insectorium used there by Mr. George Compere, who, as is known by our readers, is employed by the California Horticutlural Commission and the Australian Department of Agriculture to work for the interests of the two countries. The article in question refers to the insectorium and to Mr. Compere's work for the two countries as follows:

"Bronzed and travel-weary, with the dust of three continents and the spray of as many seas comparatively fresh upon him, Mr. George Compere, the State Entomologist and grand chief insect hunter, returned to Western Australia on Thursday, May 25th. Mr. Compere has arrived after one of his famous jaunts "round the world for a bug," and his most treasured possessions are a collection of ticketed and neatly assorted insects, a fund of scientific information, and a glowing account of the success of the system of 'parasitising' orchard pests.

Mr. Compere's latest trip, like several of his earlier ones, was made for the purpose of securing a supply of those insects whose natural food is the fruit fly, and which the tenets of the new school of entomology advance as a certain remedy for the depredations of that particular pest in orchards. A considerable amount of money has been expended in securing this parasitical insect, but an optimistic department considers that it is money well spent, and that the advantage of the expenditure will be repaid one hundred fold when the beneficial parasites are introduced. Mr. Compere has now succeeded in introducing the parasites, and the work of fighting the fruit fly will be commenced in earnest.

On the subject of the pending battle



In Actual Use

Keen Kutter Quality tells in the actual use of the tool. Keen Kutter Tools are not retired by an occasional knot or tough piece of material. They are made to stand hard work and lots of it. They are as good as new after poor tools have gone to the scrap heap. The

KEEN KUTTER

brand covers a complete line of tools. In buying any kind of tool just see that the name Keen Kutter is on it and you have assurance of full satisfaction. Keen Kutter Tools have been Standard of America for 36 years and are the best that brains, money and skill can produce.

Some of the kinds of Keen Kutter Tools are: Axes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Scythes, Tinners' Snips, Scissors, Shears, Razors, etc., and Knives of all kinds. If your dealer does not keep Keen Kutter Tools, write us and learn where to get them. Every Keen Kutter Tool is sold under this Mark and Motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."

E.C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK MO.

Trade Mark Registered.

SIMMONS HARDWARE COMPANY,
St. Louis, U. S. A. 298 Broadway, N. Y.
Send for Tool Booklet.

We Can Save You More Money

Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building Shops and Yards: 860 North Main St.
Phones; Home 2367; Sunset Red 2811 Phones; Home 1088; Sunset Main 1088

When writing advertisers mention Cultivator.

California Horticulturally

By John Isaac, Sacramento, Cal.

NEW METHOD OF PACKING FRUIT FOR SHIPMENT.

A packing house has been constructed and outfiitted at Antioch which, if successful, will revolutionize the fruit industry of California. Some account of this has been given in the upper country press, but as yet the work is being carried on quietly and without any flourish of trumpets. The establishment is the outgrowth of several years of experiments which have proven so successful that several of our leading fruit growers have put money into the enterprise to remove it from the laboratory stage and establish it as a commercial enterprise. The process, as we understand it, consists of packing fruit in air tight cases, from which all air has been extracted by means of suitable machinery, and this air is replaced with nitrogen gas. It is claimed for the process that the gas arrests decay, destroying the bacteria of the ferment which causes decomposition, and that any article packed in this manner will retain its condition indefinitely. There being no disease germs in the package it is impossible for decomposition to set in and as a result the fruit so packed will retain its qualities until it is desired for use. By this means fruit can be shipped in a fully ripe condition to any part of the world with the assurance that it will arrive at its destination in exactly the same condition it was in when shipped. It can be kept in stock by the purchaser until he desires to use it, and he can be certain that when he opens the package it will be in good condition. There will be no glutting of the market, for if the demand will not consume the imports of one day they can be set aside until they are required. It will do away with the necessity for refrigeration, and in short, if successful, will completely revolutionize the fruit industry, and add millions to the wealth of California. That the projectors have faith in their enterprise is evidenced in the fact that they have erected very extensive works at Antioch, that they have done it quietly and without any desire of notoriety, and that they have put very large sums of money into their buildings and the necessary machinery. We shall watch the outcome of the practical tests of this new enterprise with a good deal of interest.

* * *

THE ORCHARD OF THE FUTURE.

J. R. Barnes, writing in the American Cultivator, says:

"I can't help finding myself casting about for a plan of apple orcharding that will give us a form of tree more easy to spray, easier to thin and gather the fruit from, and perhaps commence to produce fruit at an early age. I believe this form of tree and condition of orchard is bound to come, that the old form of tree and plan of apple orcharding is bound to go. The scale and lack of the right spraying apparatus will force this, even if other reasons do not."

This is a discovery which the California orchardist made long ago, and which was forced on us by our climatic conditions. We long since discovered that low pruning and thinning, and so shaping the tree that it was within easy reach in every part, the keeping of the head so low that the trunk should be well shaded from our hot sun and the ground around it so protected as to resist the great evaporation of the hot dry season, was the only practicable method of handling orchard trees. The heading of our trees low at the same time make them easier to spray and brings the fruit within easy reach for picking. The Eastern friut grower has evidently something yet to learn from California, and is beginning to solve problems which we have encountered and overcome ling since.

* * *

GRASSHOPPERS DISAPPEARING.

The grasshoppers which have been more than usually troublesome in the Sacramento valley this season, have acquired their wings and have generally thinned out or disappeared. There has been a great deal of unnecessary dread experienced from this pest this season and from many newspaper reports it might have been thought that California agriculture was doomed. It is really too bad that these exaggerated reports are allowed to be sown broadcast, for, being copied in the eastern press, it gives those who are not better informed the idea that the whole State of California has been devastated by this terrible locust. The fact is, that the California locust is an innocent visitor compared with his Rocky Mountain cousin; but this is not known by the eastern readers, nor by many California readers, and the reports which have been published about it for some weeks past would make it appear to be even more to be dreaded. The truth is that we have locust visitations every year in some parts of the State, especially along the foothill sections of the Sacramento and San Joaquin valleys, and these visitations we shall have so long as the pests can find suitable breeding grounds left for them in those sections. Some seasons are more favorable for their propagation than others and, in consequence, in those years swarms are larger and more destructive than in others. This year the swarms have been especially large in the Sacramento valley counties, but have not been nearly so large or so destructive as in some seasons in the past; at the same time they have done an immense amount of damage to orchards, vineyards and gardens bordering on their breeding grounds. The total of this damage to the State has been very light, although unfortunate individuals in the path of the swarms have suffered heavily. There is but one means to stop it and that is by breaking up their breeding grounds, and as these are the rocky, gravelly lands of the foothills, which have no value except for grazing purposes, it will not likely be done; any other relief is temporary and limited. Poisoned baits will catch many, but ten will escape where one is caught; burning over the breeding places while the hoppers are yet on them will destroy many, but some will escape, and the operation is at once costly and dangerous. The pasture for the year at least will be destroyed, and there is grave danger of the fire escaping and doing more damage than the grasshoppers would.

To sum up in a few words: We may look for this pest every year, some years worse than others; there is no method of annihilating them; we can use such remedies as are available for reducing their numbers; the State of California is safe as a whole, although some small localities may suffer; it is an injustice to our State and our people to spread such exaggerated reports of this pest as has been done by the sensational press the present season.

* * *

LITTLE DAMAGE TO FRUIT FROM HOT WEATHER.

An unusually long heated spell visited the State beginning of July, covering the first ten days, during which time the mercury in Sacramento county reached the hundred mark daily, and on one occasion touched 110, a temperature never before recorded in this section, doing a great deal of damage to fruit on the trees and grapes on the vines. Even this heat was exceeded in the central and upper portions of Sacramento and San Joaquin valleys. The early reports of the damage which had been done from this excessive heat were, as usual, very greatly exaggerated, and in some instances it was stated that the total crop in some sections was destroyed. sufficient time has now elapsed to judge of the extent of the damage and, while it has been severe in some cases, as a whole, very little damage has resulted. In the more exposed situations fruit which received the full force of the sun has been cooked on the trees, but these cases are rare, in other instances some of the fruit has been damaged, but in the worst cases not over 25 per cent of damage has been done, and on the whole, but few specimens have been injured on the tree. So it may be stated that in spite of early reports there has been no damage to fruit from the hot spell.

FRENCH WALNUT CROP.

Owing to an unusually cold spring and to long continued rains all vegetation has been retarded and fruits have developed and ripened slowly. The season may be said to be two weeks behind the average one. The walnut trees have shared in this, and, besides, the excessive rains were, in one locality, in the month of June, subjected to a very heavy storm accompanied by hail.

The young nuts in consequence were slow to form, but since the 20th of June—a period of about two weeks—the weather has become suddenly warm, developing into a "heated spell," with occasional showers, and the general conditions for the growth of the nuts have changed for the better.

The nut trees are looking fresh and clean in their rich, green foliage, and the nuts themselves. now of the size of small marbles, are promising a normal yield.

Some of the dealers in the nut districts have been disposed. until these better weather conditions set in, to minimize the prospects, predicting a harvest much below the average; but others more recently are raising their expectations, and predicting fuller and more satisfactory results in every way. Combining these reports with our own personal observations, we believe that there is good ground for thinking that the nuttage for 1905 will be a fair one, well up to the average—this as to quantity, and, we see no reason why it should not be so as to quality.

ALFALFA is now attracting much attention everywhere. Do not forget that Alfalfa needs heavy doses of POTASH to insure successful growth.

We have a book which is full of valuable information to all farmers who are experimenting with Alfalfa, and will gladly mail it free of all cost to any one who will be good enough to write for it.

Address, GERMAN KALI WORKS
93 Nassau Street, New York
Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

Naturally, it is taken for granted, because of the variableness of the weather and the impossibility of forecasting the adverse contingencies that may arise in the three months before maturity, one cannot speak definitely as to the exact quality of a current season's nuts until the time of actual harvesting. At present writing, we may summarize by saying that should the weather conditions continue normal throughout the summer the prospects are favorable for a normal crop.—C. P. Mason, U. S. consul at Grenoble, France.

Young trees should not be trimmed too liberally, as too much foliage taken from the tree weakens its feeding power.

A successful plum grower is necessarily a good botanist.

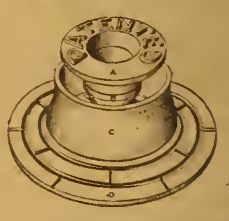
Wanted--Nursery Canvassers

A few good nursery canvassers for choice territory. Outfit furnished free; commission advanced weekly; expenses paid. Good opening for proper parties. Write at once for an agency. Give references when applying. Address

OREGON NURSERY CO., Salem, Ore.

When writing advertisers mention Cultivator.

The Star Oil Burner



Its Own Gas Maker

Not an experiment, but a practically tested and successful invention. No superior for safety, simplicity, economy and durability. Without bolts, screws or rivets. Free from soot and smoke.

STATE AND COUNTY RIGHTS FOR SALE
For terms on or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation
When writing advertisers mention Cultivator.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.
When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

SOME THINGS DETERMINING PROFITS.

In the matter of citrus fruit culture, the orchardist strives to secure quality, quantity, merchantable size, and to control the time of maturing of the fruit. In these four essentials we have the whole problem of successful citrus culture in a nutshell.

The term quality in this connection has reference to appearance, flavor and ability of the fruit to carry well. The quality of soil, the inherited qualities of the tree, climatic conditions, pernicious insects, artificial fertilization, and the general method of culture enter into the problem of the successful growing of citrus fruits.

There may be certain adverse conditions of soil and qualities of tree that it may be impossible to entirely remedy, although susceptible of great improvement.

The fertilization and general culture are tntirely under the control of the orchardist and may be used in the improvement of quality, quantity and control of size and time of maturing. In the matter of quality there is a broad field for scientific experimental work. In the matter of quantity, size and time of maturing there is a better understanding as to what methods will produce desirable results, although there are some points that remain to be cleared up. The lemon grower seeking to secure the principal crop of lemons for the summer market, proceeds to prune and adopt a method of culture at the required time to force the tree into bloom and by after culture to bring his lemons to the proper size when the market will give the best returns. The orange grower failing to adopt well planned and timely methods of culture and fertilization does not produce desired results. It is my firm belief that we have the power to largely control the quantity and size. The control of quantity will depend upon the ability of the orange tree to set and hold the new crop of fruit and the size will depend upon the culture which follows. The orange, like other fruit bearing trees, is inclined to bear in alternate years, a full crop of fruit, and in the off years a lighter crop running to large off sizes. In the years when the tree bears a full crop the aim of the orchardist is by fertilization and proper culture to bring the oranges up to the regular sizes of merchantable fruit. This is done not only to secure regular sizes but to increase the output of fruit. It is a well known fact that off sizes of oranges, consisting of the very large and the very small sizes, are discounted by the trade and bring a lower price than those of regular size, the difference ranging from ten to twenty cents less per box.

There is a belief among some of our orange growers that the annual dropping or thinning out of the new crop some time after the fruit has set is due to weather conditions, such as hot days, and that this dropping can not be controlled by fertilization or soil culture. Climatic conditions may have a tendency to cause dropping, but it is in connection with other conditions which are under the control of the orchardist.

In off years a thin setting of fruit will give a good per cent of large sizes and in these years the large quantity of these sizes make them a drug in the market and they are consequently discounted. If we can control and increase the set of fruit in the off years we will reduce the quantity of large sizes and increase not only the quantity of regular sizes but the general average of the crop. Another thing to be gained by increasing the crop of the off year is that the price of fruit generally rules higher, in these years than in those of a full crop. I think we may safely say that a severe dropping of oranges is due to a lack of vitality in the tree, from a lack of the required supply of available plant food or the draft made upon the tree by a large stock of scale.

The scale is always supported at the expense of the tree. It draws on the supply of nourishment which should go to make new wood and fruit. The tree should be kept clean and free from scale and the fertilizer should be applied at the right time to stimulate the tree. There is no doubt as to the method that should be adopted in the fertilization of the orange orchard in full bearing. Fertilize moderately every year. Fertilizer applied spasmodically or not at all will result in large crops in some years, followed by very light ones.

The crop of oranges is always borne on the new wood, and it is necessary to grow a good quantity of new wood every year for the succeeding crops of oranges. To secure good crops of oranges every year the tree must be given plant food in sufficient quantity to not only mature the present crop but to grow the new wood for succeeding crops.

A bearing orange tree grows its supply of new wood in the summer and fall when the temperature of the soil has been raised sufficiently to cause nitrification to take place. There is no growth of new wood on a bearing orange tree in the spring and early summer. The fruit spurs, blossom and newly set fruit of the spring time are largely the product of the reserve material stored up by the tree in the previous summer and fall. Trees and plants store up during the principal growing season a reserve of elaborated food material in the form of sugar and starch. This provision of nature is for the purpose of propagation and continuance of the species. A part of this material in the form of sugar, starch and oil is stored in the seed, which is used at the time of germination of the seed to grow the root system, and the germ, or sprout, to the surface, where it expands its leaves in the sunlight and the new plant is rendered capable of taking the carbon from the atmosphere and the mineral elements and nitrogen from the soil and begin the manufacture of elaborated plant food on its own account.

The tree not only stores up this reserve material in the seed, but under the bark, for the growth and development of the blossom and newly set fruit of the succeeding year. The fertilizer must be applied at a time that will render it available for the use of the tree during the growing period. Some orchardists supply an available commercial fertilizer in the fore part of the summer to stimulate a growth of new wood on the orange tree. Some apply a limited amount of available nitrogen at the beginning of the blossoming season near the surface. The application of nitrogen in excess of what the tree can use is a waste, as denitrification destroys the nitrates not used. The most critical period of the year for the orange tree is from July 1st to November. The growth of the fruit and new wood and storage of reserve material for the blossoming time must be all carried forward at the same time and requires an abundant supply of available plant food, thorough irrigation and cultivation. With the tree carrying a heavy crop of fruit conditions must be most favorable in order to secure a medium crop the following year. Under such conditions a crop of black scale will frequently turn the balance against the grower.

SCUTELLISTA.

Editor Cultivator: Last year the scutellista cleaned up the black scale on our orange orchard pretty well, but during the cool weather this spring the scale became pretty bad and a great many have hatched. Now nearly all the old scale have grubs or flys. Will the scutellista work on the young scale so that we will not need to spray? Will send you under separate cover branch of tree showing size of scale. Also will enclose a couple of insects found on orange trees; are they harmful or beneficial? If harmful will spraying destroy them?—C. F. E. R., Orange.

Regarding the work of the scutellista on the scale now hatching, such as was sent by Mr. R., will say that we think they will succeed in parasitizing the majority of these insects. The scale are now about the size of a pinhead, though many are more nearly grown. The old scale on the stem which you sent are almost every one of them inhabited by thrifty young scutellista. Of course, they will have no immediate effect upon the young scale, but will doubtless be ready to deposit their eggs underneath the living scale a few weeks later. The insects on the leaves in the bottle which was sent are, so far as we can determine, nothing but the aphis lion, a beneficial insect which preys upon the plant aphis which may have infested the trees. There may have been other insects in the bottle but, owing to there having been some liquid in the bottle which gummed up and destroyed the life of nearly everything that may have been on the leaves, its was almost impossible to be sure which one was meant.

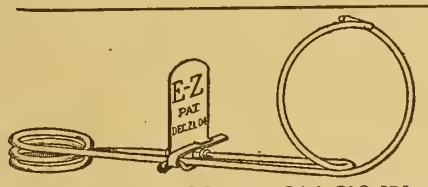
Hundreds of trees set every year die because of the neglect of the owners. It is not always the fault of the nurserymen.

"IT'S PENNY WISE"

Policy to set out a good tree, costing good money, and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow st., Los Angeles.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.
When writing advertisers mention Cultivator.

Peas 500,000 Pounds Two Hundred and Fifty Tons Peas
Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Cul ure Bacteria at agent's price. Write for prices and particulars.
Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.
When writing advertisers mention Cultivator.



Ask Your Dealer
for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

Hoegee's Handsome Hammocks
ORDER BY MAIL

1-3
OFF THE REGULAR PRICE
We shall carry no Hammocks over
We Manufacture
Irrigation Hose
Tents and Awnings
Khaki Clothing
Stack Covers
Fruit Picking Bags
THE WM. H. HOEGEE CO., Inc.
PHONES—EX'S 87
138-142 So. Main St. Los Angeles, Cal.
Send for Catalogues
When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

WILL WE GET BAILEY?

Rumor has it that President Wheeler of the State University recently went East for the express purpose of securing Prof. L. H. Bailey, of Cornell, to succeed Prof. Hilgard as Dean of our Agricultural College. "'Tis a consumation devoutly to be wished."

What lends color to this rumor is the fact that since we first heard the above report Prof. Bailey has come to this coast and is presumably to come south from the Portland exposition to look over the ground and consult with "the powers that be" at Berkeley.

While it would be saying too much to state that California's horticulture hangs in the balance, it would become us to hold our horticultural breath in expectancy. Such an alliance means much to this State and Coast. California and Bailey! What a union of strength! The comparative standing of our State in relation to our farm and orchard products is too well known to our readers to need repetition at this time, and to our most prominent horticulturists the name (and fame) of Bailey is nearly as familiar; but to those who are as yet unacquainted with his life and works, we insert the following sketch:

Liberty Hyde Bailey was born at South Haven, Michigan, March 15, 1858. Graduated at the State Agricultural College in 1882. Next two years as assistant to Prof. Asa Gray, at Harvard College. Next four years as professor of horticulture at his alma mater, University of Michigan, whence he was called to the chair of horticulture at Cornell in 1888. In June, 1903, he succeeded the veteran I. P. Roberts as Dean of the Agricultural College and Director of the Experiment Station at the latter place, which means a life position for him, unless called elsewhere. Besides being a prominent member of all great societies and organizations for the advancement of science and of agriculture, and horticulture in particular, he is the author of more works of standard authority than anyone in the same line, living or dead. Though still a young man the volume of his work, considering its general acceptance and high standing, has been enormous, for there is no branch of horticulture in which Prof. Bailey has not one or more works generally accepted as of the highest value.

With Prof. Bailey at the helm, with his great knowledge and experience, ably seconded by our own Prof. Wickson, what possibilities the near future holds in store for California we hardly dare guess. Certain it is that the name of Bailey will alone give our agricultural industries a greater stimulus than any other force we could add, while his keen foresight and tireless energy would soon place us in a position such as to meet the wishes of the most expectant.

Bailey and Wickson would make a remarkable working team, for in the East, among the horticulturists of note, Prof. Wickson has been called the "Bailey of the Pacific Coast," a title of which any man might justly be proud. We take the liberty of here printing Prof. Bailey's estimate of Prof. Wickson: Some years ago, in answer to a letter from the writer, an assistant writing at Prof. B.'s request, advised to "cultivate Wickson; he is the grandest, broadest man you have on the Coast."

HOUSE PLANTS.

The cultivation of house plants has a refining and quieting influence on families where they are grown; they adorn the house as nothing else can, and give to the cheapest furniture an air of elegance which no other ornament can impart. And the influence of flowers is not confined to the house or household where they are cultivated; they are a most graceful form of charity to the poor passer-by who has no means of gratifying his taste for the beautiful. To him, blooming flowers, surrounded by their leaves of different shapes and shades, even when only seen at a distance, through a parlor window, give a positive pleasure which those more accustomed to such gratifications can scarcely appreciate. It is impossible to overestimate the effect of youthful association and daily companionship with such exquisite shape and coloring, which foster in the minds of children a taste for simple and natural forms of amusement and recreation.

Henry Ward Beecher declared that he always found house plants an infallible test in selecting acquaintances, neatness, cleanliness, and innumerable virtues being the usual accompaniments of a love of flowers. Then, what delightful subjects of gossip they furnish; and how many reputations have been spared when house plants were at hand, and their various merits, their growth, and means of culture to be discussed! How they grow into the affections, too, as we watch their green sheaths pierce the rich brown mould, and leaves and blossoms expanding into loveliness!

OILS FROM PLANTS.

Croton oil is extracted from the seeds of Croton tiglium, an evergreen tree, growing 15 to 20 feet in height, a native of the East Indies. It is prepared by reducing the seeds to a powder, which is placed in bags, and pressed between iron plates. The oil is allowed to stand fifteen days, and is then filtered. The residuum is saturated with twice its weight of alcohol, heated to 140 degrees, and the mixture pressed again. The alcohol is afterward removed by distillation. The oil is a very active purgative, very acrid, and dangerous, unless carefully administered. Even those employed in preparing and pressing the seeds are affected with irritation of the eyes and violent purging.

Cinnamon oil is obtained from the bark of the cinnamon tree, Cinnamomum Zeylanicum, much cultivated in Ceylon, Cochin China and other places in the East and West Indies. The fragments which remain after peeling, sorting, and packing the marketable bark, are roughly powdered and macerated in salt water for several days, and then distilled. The oil is at first of a yellow color, but soon assumes a reddish-brown hue. It has an odor intermediate between that of cannamon and vanilla, but possesses in a high degree both the sweet, burning taste, and the aromatic smell of cinnamon. Eighty pounds of fresh, newly prepared bark yield about 2½ ounces of oil, which floats upon the water, and 5½ ounces of heavy oil, which is precipitated to the bottom of the receiver.

The best camphor oil is furnished by Dryobalanops Camphora, a lofty-growing tree of the island of Sumatra. The wood is tough and durable, and is used for shipbuilding, its strong oil-scent saving it from the attacks of shipworms. The oil is obtained by incision and flows as a pale yellow liquid, called the liquid of camphor of Borneo and Sumatra. It consists of resin and a volatile oil, having a camphorated odor, and has been used in scenting soap and other perfumes. Solid camphor is also found in the wood, especially in old trees. It differs from ordinary camphor by its greater hardness and brittleness. It is much prized by the Chinese, who ascribe many virtues to it. The camphor oil we get in the U. S. is from the camphor tree so common in California, native to China, Japan, Formosa and adjacent islands.

Clove oil, or oil of cloves, is obtained from the flower buds of Caryophyllus aromaticus (Myrtaceae). It is associated with resinous, gummy and astringent matter. The buds yield 17 to 22 per cent of oil, which is aromatic and acrid, and has been used as a condiment and stimulant carminative. It is also employed by distillers and manufacturers of soap. An oil called clove oil is distilled from the leaves of the cinnamon, which is said to be equal in aromatic pungency to that made from the clove.

VEGETABLES ON THE FARM.

A good vegetable garden is conceded by most farmers to be most convenient and profitable, and yet comparatively few farmers have one. The reason usually given for the neglect is that they do not have time to attend to one. The truth of the matter is that the garden requires a little care daily, and demands thought, patience and system in order to secure success and profit. Unhappily, these are just what most farmers dislike, preferring to tend the larger crops, where less thought and more muscular power is required. They would be glad of the rich product of the garden upon their tables, and the pleasure, health and profit they would yield to the family, but the habit of neglect in this particular has become so deeply implanted that no common influence will break it up.

A shipload of lily bulbs from the far east—the Orient—will be among the produce to pass through Portland, Oregon, in the near future, on consignment to a New York house which imports great quantities of the flowers every summer. It is estimated that there will be 15,000 cases of the bulbs and if they are all brought across the Pacific at once 150 cars would be required to transport them across the United States. At first reading this seems like a great undertaking for one firm, but it must be understood that this nation is to a great extent composed of flower-admirers, and such a quantity of bulbs would not go very far after all towards supplying the demand.—Pacific Homestead.

The peer of all cut flowers is the gladiolus. What a profusion of different markings there are among them! What glorious spikes of beauty! We made three plantings so as to have a continuity of bloom. We couldn't get along without about a bushel of the bulbs. Also the dahlias are necessary to the complement of beauty.

Public benefactors spring up, now and then and the good they do is immeasurable. The latest benefactress is Mrs. Anna Bidwell, of Chico, who has given that town 1402 acres of beautiful land to be used as a public park.

There are thousands of rich Californians who can do something for their towns in the way of public improvements, such as donating money for street beautifying, for parks and for gardens, which will not only add value to their own property, but bring pleasure into the lives of others.

There never was a kingdom grander than California, and by the lavish hand of art it may be made the glory of the world.

CAULIFLOWER SEEDS
$1.50 PER OUNCE
DIRECT FROM GROWER IN DENMARK
ADDRESS KARL KOLLE, 1234 N. 50Av. CHICAGO

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator

A Public Benefactor

The California Limited Log-Book:

TO FRED HARVEY:

Who perfected the Superb System which is his memorial, and who incidentally rendered a broader service to the country by bringing out the girls who have made thousands of homes in the Southwest.

Honor to Fred Harvey as the greatest factor in the upbuilding and populating of the Southwest.

R. S. G.

SANTA FE IS THE WAY

General Agricultural Notes

WINTER CABBAGE.

Cabbage sold so exceedingly low last winter that it is possible there may be slight interest in it this year but have some inquiries as to the best time and methods of handling this vegetable, we give below a few points regarding it from the pen of that interesting writer who has had large experience in California vegetable gardening and who has heretofore given readers of the Cultivator several interesting articles. We refer to "Q. A. L.," of San Gabriel.

* * *

"The time for planting seed for fall and winter cabbage depends somewhat upon the variety and whether you wish to market in the fall or midwinter. Referring to my notes I find I sowed seed of Burpee's Surehead cabbage last year on April 26th, and transplanted into the field June 21st and 22nd. The cabbage was marketed September 13th. Any time from April 15th to August 1st will do to sow the seed. It will be evident, however, that the later sowings will not mature until midwinter.

Almost every gardener has his own method of handling the plants. I sow the seed thinly in rows not longer than 150 feet and the rows about twenty inches apart. Unless on a large scale I prefer hand sowing. The ground should be mellow and moderately fertile. If one can find the time to transplant the young plants when they are about three inches high into rows as I have described for the seedlings it will give a stocky, fibrous-rooted plant that will transplant into the open field with less check than plants that have not been transplanted. Whether transplanted or not, the seedlings must be watered and cultivated well and frequently. If they have been sown too thick, thin out so that they will stand not closer than two inches in the rows.

Transplant into open field as soon as the plants are four or five inches high. Be very sure to cut the leaves back at least a half as soon as lifted from the seedbed. This will reduce the surface through which the juices of the plant are evaporated before the roots take hold in its new quarters. One of the prime secrets in growing tender and sweet cabbage is that from start to finish it should never be allowed to receive a severe check in the growth. This is much more difficult to accomplish in our arid climate than where the rainfall is abundant. The cabbage is a gross feeder and it is worse than useless to attempt to grow a large crop of fine quality on land that is not made fertile. I have used one hundred tons of stable manure per acre, annually for early cabbage, and that, too, upon land that had been brought up to the highest standard of fertility by previous years of good care.

"It is fair to state, however, that such heavy manuring was not necessary for the later crops. When the earth became worked up by the advancing seasons the plants seemed able to get their necessary quota of nitrogen from less than half the quantity of manure that was essential earlier in the season; when, because of the low temperature, the nitrogen was not avaliable.

"Whether or not there is money in growing plants for the trade, depends on so many things that I cannot answer in a single word. Such work pays east of the Rockies, and if begun in a limited way here, I think it could be made to pay. Berry boxes are too bulky to use for temporary potting. The modern paper pot would seem the ideal package, but I grew cabbage, tomato and celery plants in large quantities for several years in flats, containing 50 to 100 plants. Necessarily, the work if done on a large scale, would have to be "on orders." That is, contract work. They are so perishable. They grow so quickly to a limit where they become valueless unless planted into permanent quarters—that unless one is growing on "orders" the risk is so great as to invite failure.—Q. A. L., Barbour Ranch.

* * *

In addition to what Q. A. L. says, we may add that Wickson's California Fruits says:

It is wise in most parts of California to start plants in a seed bed in September or October, irrigating the ground well to guard against drying out on land not naturally moist. In the warmer coast regions good plants can be grown at this time of the year in the open ground in drills eight or ten inches apart for hand-hoeing. In the interior, where temperature extremes are liable to be greater, a cold frame, or covered seed bed, may be used to protect the young plants against hot, dry winds. In small garden practice the use of the seed-box is often handier. Plants should be given space enough to grow thriftily and should be transplanted to the field when conditions are right for planting out in the locality.

Plants started in September may be planted in the field as soon as they are strong enough, when an early winter crop is expected. Where this is not favored by the local climate, it is still advisable to have early grown plants, and in garden practice they can be several times transplanted and thus kept small and stocky for planting out when soil and weather are right for it. Where the early winter is apt to have quite severe frosts, plants started in the fall in the open air can be transplanted to cold frames until this danger is past.

FACTS ABOUT ALFALFA.

Alfalfa seed weighs sixty pounds to the bushel. For a hay crop sow twenty to thirty pounds of seed per acre. For a crop of seed, sow fourteen to eighteen pounds per acre. Sow clean seed.

Screen alfalfa seed before sowing to separate the dodder and other weed seed. Dodder is the worst enemy of alfalfa.

Do not cover the seed too deep.

Alfalfa does not attain maturity until the third or fourth year; therefore do not sow it expecting to get the best results in less time.

Alfalfa grows best on a deep, sandy loam, underlaid by a loose and permeable subsoil. It will not grow if there is an excess of water in the soil. The land must be well drained.

Alfalfa is a deep feeder. Plow land deeply.

Cut for hay when the first flowers appear. If cut in full bloom the hay will be woody and less nutritious.

Cut for seed when the middle clusters of seed are dark brown.

To make alfalfa hay cut in the forenoon and let it wilt; then rake in winrows and cocks, and stack or put in barns with as little handling as possible, before the valuable leaves become too dry or brittle.

It is not safe to pasture either cattle or sheep on alfalfa, as they are liable to bloat, when it is fed green. Feed them the hay or practice soiling.

There is no better or cheaper way of growing hogs than to pasture them on alfalfa. One acre will furnish pasturage for from ten to twenty hogs per season.

Horses can be pastured on alfalfa.

Alfalfa hay is not a complete ration. The best results are got by feeding it with corn fodder, ensilages, wheat or oat straw or roots. Alfalfa contains large amounts of protein.

Six to ten bushels of seed is the usual yield per acre.

Keep the weeds mowed and raked off the first season or they will choke out the crop.—Ex.

GOOD GOPHER CATCHERS.

We note the following in the San Bernardino Times-Index:

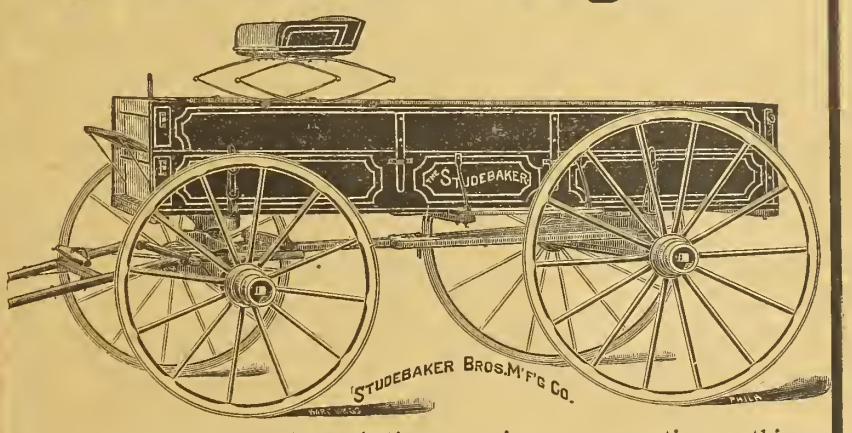
C. H. Miller, the Verdemont rancher to whom a party of boys recently turned over the pet coyotes of the fire department, "Hans" and "Fritz," finds them valuable as gopher catchers on his ranch.

The rancher declares the coyotes have the best dog or cat ever built beat a mile as gopher hunters. They will quietly sneak about the field looking for signs betraying the presence of gophers. When these are found, the coyote will lie down, instinct telling it which way the gopher will emerge from the ground. After a while the coyote has dinner.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino

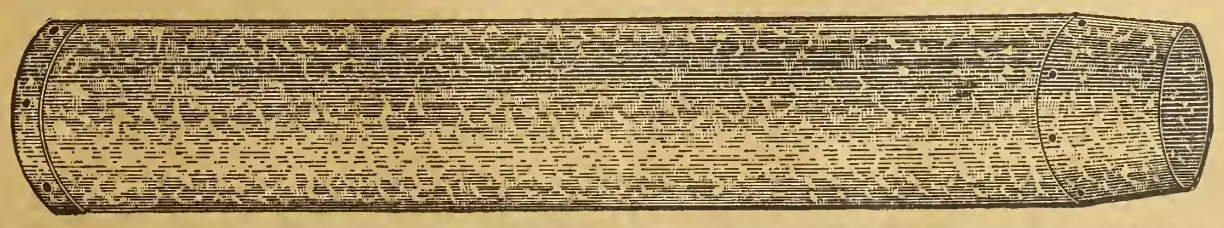
When writing advertisers mention Cultivator.

Cross-Bar Wagons



For light ranch work, marketing, camping or prospecting, nothing is equal to a *Studebaker Cross-Bar Wagon.* We have them with sawed or wood-hub wheels, high or low wheels, wide or medium tires.
Write for catalogue and prices.
VEHICLES AND IMPLEMENTS
NEWELL MATHEWS CO. 200 N. LOS ANGELES ST. LOS ANGELES, CAL.

When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE
Tallerday Manufacturing Co.
PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles
MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR
AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, August 4, 1905

CONTENTS.

	Page.
Is Deep Cultivation Beneficial	99
Prune Out the Berries	100
Fruit Output Reduced	100
Peas for Green Manuring	101
A State Insectorium	101
New Method of Packing Fruit	102
Walnut Crop	102
Orange Profits	103
Scutellista	103
Will We Get Bailey?	104
Winter Cabbage	105
Editorial	106
News Notes	107
Grooming the Horse	109
Veterinary	110
Forcing the Moult	111
Testing Eggs	114
Queries and Communications	115
Household	116-117
Markets	118-119

Errata.—By error the article "A State Insectorium", not completed on page 101, was continued on page 100 instead of 102.

The Chinese Boycott.—California is destined to feel the blow China is striking at our commercial industries. Already one of the largest houses in San Francisco has been ordered by its foreign agent to "cancel all orders, as business is practically suspended."

The beginning of this trouble dates back to the enactment of the Chinese exclusion law, which the government has been strictly enforcing for the past few years. The provisions of this law are severe, and enforcing them has created much ill feeling on the part of the Celestial government. To get even a "boycott" has been declared against American goods and from this on we shall reap the harvest we have sown. That Germany is quietly aiding in intensifying the feeling against America, appears very probable, because she is pushing more industriously for occupation in that quarter of the world than even Great Britain, but it goes without saying that every nation in the old world is looking on with ill concealed glee at the fine fury China is working herself into against America and her commerce. A Chinese immigration law was necessary, but it never should have been permitted to develop into a law better entitled "An act of persecution" than an act of exclusion. It is here the boycott fever has its origin.

Untold Wealth for Our State.—The announcement was made this week that a most gigantic scheme has been perfected to bring water in unlimited quantity from the Owens river to supply the entire country around Los Angeles, for a distance of a hundred miles or more. Not only is the future of the city of Los Angeles assured, no matter how great may the city grow, but the country round about is to be supplied with purest water from the Sierra mountains, and the desert, in Southern California, made to become as valuable as the richest tracts of land now under the most ample irrigation system. This water is to be brought 240 miles through mountains in great conduits, to Southern California, possibly to the limit of land on the south, which is San Diego county. It is estimated that 30,000 inches of water will come into Southern California, supplying the San Fernando and San Gabriel valleys and the towns now being built and those that will be built with all the water needed for every purpose whatsoever.

Los Angeles will have a supply of water greater than that of any other city of equal size in the world, and the San Fernando and San Gabriel valleys will be converted into the most productive region in the world.

We can scarcely realize the future of this part of California when all doubt about water supply is forever settled, as it will be, when the mighty Owens river empties its snow melted waters at our very doors. The source of this wondrous supply is located between Sierra Nevada and the White Mountains in Inyo county. It is 100 miles in length and between five and six miles wide. "The water commission for the city of Los Angeles," says the Times, "has bought the southern forty miles of this valley, which gives it the riparian water rights to the flow of Ash creek, Cottonwood creek, Turtle creek, Lone Pine creek, George's creek, Shepherd's creek, Independence creek, Oak creek, Black Rock springs, Division creek, Goodale creek, Clear creek, Taboose creek, Tinemaha creek and Fish springs."

In the valley there are already about fifteen canals which take water from the mountain streams for irrigation purposes. But this water, soaking through the porous gravel beds, finds its way back to the river and becomes part of the supply bought by the water board.

Some of the mountain streams in that valley are among the most magnificent in the West.

Cottonwood creek is a magnificent mountain torrent plunging down the eastern slope of Mount Whitney to lose itself in the gravel beds of Owens river.

For the seven miles of its length the stream is a series of waterfalls of great scenic beauty. In the summer season it carries a flow of water greater than that of the entire San Fernando valley. In a distance of seven miles the stream has a fall of over 6000 feet.

It is from this stream that the engineers expect to develop sufficient power to bore the twenty miles of tunnels that will pierce the mountains barring the gravity path of the conduit which will bring the Owens river into the San Fernando valley."

The origin of Cottonwood creek is a vast body of snow from twenty to twenty-five feet deep in the spring and early summer, and seldom gets as low as ten feet, even in the hottest season. From this eternal supply will come the life-giving water for people and land in the country of California's glory. About four years will elapse before the water will reach the San Diego line, but in that time one hundred thousand people will have come into the valleys, which this mighty conduit will make a living oasis. Orange and lemon groves will abound in future where today only cactus and sage brush grow. Magnificent herds of cattle and sheep will cover the plains and we shall become, in deed and in truth, a country blessed of God and thrice blessed of man. Great industries will spring up along our coast and prosperity, such as Southern California has never witnessed, will everywhere abound.

* * *

The Cow in California.—With the introduction of all the water farmers can possibly use will come a new industry into Southern California. Heretofore fruit growing has been really the principal industry. In the north the diversity of interests has been greater. From the boundary line to San Francisco, general farming has been the occupation of a majority of the people, especially adapted to grain raising and alfalfa growing, Northern California has been making wonderful strides in the last few years, adding dairy to agriculture until that section has placed itself on an independent basis. The tide of agriculturalists from the East has been toward the undeveloped lands of the great northern counties of California, where lands were cheap, water abundant and cattle raising a sure and lucrative occupation. Coming down into the central part of the State, like progress has been made in population, but not so much progress along the lines of developing the possibilities of the cow. Fruit, vegetable and grain growing have occupied the most energetic of the people, although dairying to a considerable degree has constantly developed.

But it will remain for Southern California to exhibit the most stupendous strides in dairy production when the country is thoroughly under the influence of the new dispensation which is promised when the Owens river is brought into it, as it will be, by means of one of the greatest systems of irrigation the world has ever known. Then the thousands of acres which now remain uncultivated will be growing alfalfa, with other grains, and hundreds of dairies will be scattered about where now there are none. That dairy interests are destined to become most important, if not the most important, of any in the State, may reasonably be anticipated, when we remember that last year they amounted to $20,375,567, while fruit only reached a total value of $25,000,000.

The Sacramento Union makes the observation that "the fact that dairy products are imported into California in constantly augmenting quantities ought to be an encouragement to local development of a most remunerative business. Both cheese and butter reach California from the East and also from abroad, and the quality is no wit superior to the California product. California herself exports condensed milk and cream and the figures for the current year show a gratifying increase of $100,000 over the previous year. The State ought not only to produce her own butter and cheese, but she ought to turn her imports of these goods into exports, and she will certainly do so when her ranchers rise to their opportunities."

They will rise to their opportunities in Southern California when they can raise grain and alfalfa at reasonable cost, and produce butter, equal to the best now imported, for less than the cost of handling the product in the market today. Mighty things are in store for the cow in California in the nevt few years.

* * *

To Degrade Secretary Wilson.—The extent to which the enemies of rate legislation will go to accomplish their designs—namely the defeat of rate legislation in congress, is seen in the effort now being made to degrade the Secretary of Agriculture in the public mind, by repeatedly attacking his office, with the purpose of driving him from the cabinet. Mr. Wilson, who all the years he has been Secretary of Agriculture, has been the steadfast friend of the farmers and producers of the country, and the sturdy opponent of the trusts and combines which have been robbing the people, is now beset by these forces of public plunder, as the country believes, who charge that he is permitting dishonesty to develop in his department; that his disbursement of funds has been illegal, and that a state of affairs exists in his office as compromising to his administration as existed in the postoffice department. So far as Mr. Wilson is concerned, nobody believes he would permit dishonesty in anything he has to do. He may have dishonest employes under him and they may do things which are illegal and which he knows nothing about. In a great department, such as the one over which he presides, no man can exercise absolute, personal supervision, and it is an easy matter for a clerk, or for several of them, to do things, under cover, which their chief is ignorant of, unless something occurs to bring them to his attention. It would seem that Mr. Wilson's whole trouble has been that in his big way he has been so honest that he could not bring himself to believe that anybody associated with him in his work in the department could by any possibility be dishonest. He never believed it was possible that thieves could be at work in his pet institution. It has not been shown that any great amount of irregularity has been committed, but enough has been discovered for the enemies of Mr. Wilson to attempt to embarrass the President and force the Secretary of Agriculture to retire from the cabinet. Underneath these repeated attacks may be seen the cloven foot of the enemies of rate legislation. It is believed to be one of their schemes to divert the attention of congress and the country from the discussion of this paramount subject, and by degrading the Secretary of Agriculture frighten public officials into silence when the measure shall come before congress for discussion.

Most profound regret exists in Washington over the repeated attacks made upon the Secretary of Agriculture, because, apart from politics, he is recognized as by far the best Secretary of Agriculture this country has ever had, and that he has done more for agricultural and horticultural interests than any other person in his position has accomplished.

* * *

"John D. Rockefeller is the greatest criminal of the age." These were the words of Gov. Robert M. LaFollette of Wisconsin in an address delivered before the Illinois State Chautauqua Assembly Sunday last. The address was a flaming arraignment of corrupt State and National legislation and of the monopolies.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

Buyers are reported in Santa Clara county offering three cents for prunes.

The olive crop in the Menifee valley is reported particularly heavy this year.

The Crawford peach crop in the northern half of the State is reported short and unsatisfactory.

Articles of incorporation of the Spencer Seedless Apple Co. were filed in San Francisco last week.

Prunes and peaches around Campbell are ripening very rapidly and the prospect is for early drying this year.

The Zante packing house at Porterville is finished. New machinery will be placed in time for the coming citrus crop.

The crop of summer apples in the district south of Soledad in Monterey county was largely destroyed by the recent hot weather.

The prune crop around Rockford, Tulare county, is said to be very good and will be ready for gathering unusually early this season.

Contracts were let last Saturday for the erection of an addition eighty by eighty feet to the present house of the Lindsey Fruit Association.

Prof. Albert West, of the Department of Agriculture, at Washington, is in Southern California to aid in the investigation of the walnut blight.

The grape crop in the southern portion of Fresno county and northern part of Tulare, is reported considerably damaged by the recent hot weather.

Picking Thompson seedless grapes is now in progress in Tulare county. One cent a pound is being paid in small lots; at the drying sheds $17 per ton is paid.

The Ernst Luehning company at Suisun has dried and shipped a very large quantity of apricots this season, some of which were sent direct to Germany.

A correspondent from San Jose writes that prunes are still dropping badly, and will not average over one-third of a crop. However, the fruit is ripening very rapidly.

Apple growers of the Hood river district, in Washington, last year received from $2.10 to $2.50 per box, f. o. b., for Newtown Pippins. This season they expect to receive as high as $3.50.

Word comes from Florin, Sacramento county, that the Tokay crop has been damaged fully twenty-five per cent in the region from the Mokelumne river south to the county line in the north.

The Hallengren Winery, 80x64 feet with 10,000 gallon storage tanks and fermenting tanks for handling 150 tons of grape at a time, will be completed in time for this year's crop, when about 600 tons will be handled.—Sonoma Farmer.

Manager Sprague, of the California Fruit Exchange reports four cars of pears and peaches sold in eastern cities one day last week, which brought banner prices. One car sold for $1552, another for $1195, another $1450, and the fourth for $1314.

Nearly all of our local exchanges report special prices received for lemons in the East, but the best price yet reported is that from Blanchard's packing house, at Santa Paula, last week, when a half car of standards sold for $1763 net, which is equivalent to about $9 per box.

It is announced that the Colton Fruit Exchange will pay to growers about September 1st, a dividend of $18,000. This sum is the difference between packing charges and actual cost.

Our correspondent writing from Healdsburg says that canneries are mostly working full time now. Peaches, blackberries and plums are being put up. Cling peaches are netting the growers $50 a ton, free stones $25, blackberries $30. At that price the berries are hardly worth picking. Green prunes selling at from $20 to $30 per ton, short crop.

The apricot harvest in the district known as the Avenue, north of Ventura, is about completed, the crop being very heavy. According to the figures of the growers, it amounted to about twelve hundred tons, making about two hundred and forty tons, or twenty-four cars of dried fruit. At five cents a pound, it is figured the orchardists will receive a total of $24,000. Nearly five hundred people were required for about three weeks' time to handle the crop.

AGRICULTURE.

The hop crop in Sonoma county is estimated at two-thirds of a crop.

The Pomona Grange will hold a meeting at San Jose, August 12th.

The sugar beet factory at Los Alamitos commenced its fall campaign this week.

It is expected that the Chino sugar factory will commence the fall campaign about August 14th.

Harvesting around Glenn is nearly over. Barley has turned out well, wheat very light, and prospects for corn very good.

The Rockyford canteloupes from Exeter are now being sold in the markets along the coast, and are declared of superior quality.

Threshing began in the Hoopa valley, Humboldt county, last week. The yield of oats and barley is better than for several years.

Hundreds of hop pickers are reported camping at Wheatland ready for hop picking, which will commence about August 12th.

Work on the new beet sugar factory, one mile southeast of Visalia, was begun last week. Part of the machinery for the building is already on hand.

A forest fire the first of the week in the south end of the San Bernardino mountains swept over several thousand acres and destroyed a lot of hay.

The hop crop in the North Yakima, Washington, district is reported to be about the same as last year, there being a good deal of loss from the hop pests.

M. H. Durst, of Alameda, gives out an interview advising hop growers not to sell during the next thirty days. He says that prices are now easy at eighteen to twenty cents with the chances largely in favor of better prices being paid in October.

LIVE STOCK.

There is talk of building a new creamery at Gilroy.

Material for the new creamery at Glenn has been ordered.

The Kings Co. creamery at Hanford has just ordered a $600 cream ripener.

L. M. Cornell, of Porterville, is shipping horses to the Los Angeles market for sale.

Farmers around Jacinto, Glenn county, are trying to organize to build and operate a creamery.

Fred Hughler, of Indiana, is looking over the country about Lindley with a view to starting a cattle ranch.

The Wool Growers' Association will hold its fall wool sale one day between October 13th and 20th at Marysville.

The amount of butter in cold storage at Los Angeles is about 200,000 pounds less than at this time last year.

The McKim Brothers shipped from Imperial last week, a car of hogs for which they received six cents at Los Angeles.

G. A. (Buttermilk) Smith has sold his entire creamery business both at Los Angeles and in Central California to a syndicate.

A valuable milk cow died within an hour after being turned into a patch of green Egyptian corn near Antelope, Sacramento valley, last week.

A drove of thirty hogs broke into a vineyard near Roseville last week and proceeded to make a meal on a bran mash poisoned for grasshoppers. As a result eight pigs died.

J. L. Harrison, of Pasadena, will leave shortly for New York and Boston, to be gone for a couple of months. He will pick up a few fine chickens with which he will grade up his pens.

The Patterson Ranch Co. have selected four hundred head of steers from their Topo ranch in the Simi and taken them to Oxnard, where they will be put into early feeding at the sugar factory yards.

MISCELLANEOUS.

The deer season in Santa Cruz county opened August 1st.

Several miles of county roads are being oiled in Tulare county.

The government has decided to install a new guage in the Sacramento river at Red Bluff.

Canneries at Marysville are short of help, notwithstanding higher prices are paid over previous seasons.

Government experts are examining both forks of the Yuba river with a view of seeding them to forest trees.

Figuring from the number of school children in the State, California has a population of 1,722,661 in this year of 1905.

The time for burning the bonds in the Escondido irrigation district has been definitely settled to take place on September 9th.

A number of boys at Summerland one day last week organized a rat bee and succeeded in killing three hundred and sixty-four of these pests on that occasion.

The Southern Pacific company has recorded patents from the government on two tracts of land in Riverside and San Diego counties. One patent covered 132,302 acres and the other 114,257 acres.

Work on the construction of the new Yosemite short line railroad from Jamestown to the National Park, is to begin this week. The company has signed contracts for fifty miles of steel railing, delivery to begin in September.

The city of Los Angeles has secured options on the Owens river water, amounting to about 25,000 inches. An election is to be called to vote bonds totaling about $20,000,000 to bring the water to the city, a distance of 240 miles.

The supervisors of Orange county have signified their intention of creating a levee and protection district to control the flood waters of the Santa Ana river from West Orange to the ocean, a distance of about ten miles, at a total cost of $78,000.

Practically every redwood lumber mill in the northern part of the State is said to be overrun with orders. The question of supplying lumber fast enough is a problem that now confronts most of the Coast mills. Never before has there been such a tremendous demand for lumber.

It is stated that a new company has been formed to manufacture men's hosiery, such as used by miners and lumbermen, also other knit goods at the Woolen Mills buildings in East Napa. The company also plans the operation of an ice factory and cold storage establishment at the same point.

J. F. McIntyre, of Ventura, well known as a leader in the honey industry, says that the yield is about 7000 cases of honey, which will run about six tons to the 100 cases, or something like 437 tons of sweetness. This yield comes principally from Los Angeles, Ventura and Santa Barbara counties.

The Sierra Railway Company announce that they will build a road from Oakdale, Stanislaus county, to Angels Camp, Calaveras county, with branches at Modesto, Knight Ferry, La Grange and Centerville, the total length of the main line and branches to be 124 miles. The company is capitalized at $5,000,000, of which $124,000 has been subscribed.

"STAYING POWER."

The Country Gentleman printed some time ago a statement regarding the great staying power of pigeons. The item, which was later quoted by the Petaluma Journal, is:

The tremendous staying powers of the pigeon is illustrated by the following from the Country Gentleman: A Utica (N. Y.) letter says that an exhausted pigeon, which had on its legs a tag inscribed "A. C. H. 396," has been found at Dolgeville, Herkimer county. Adolf C. Horn, a pigeon fancier, lived in Dolgeville until a year ago, when he went to the new Dolgeville in southern California, taking his pigeons with him. It is supposed that the bird is one of his flock which returned to its old home. Such a flight, however, is unparalleled."

A letter from Mr. Horn says: "I did not bring any birds to California. The bird which went back to Dolgeville, N. Y., I believe I sold to an eastern fancier." Thus a remarkable "flight" of a bird is reduced to one of imagination.

C. H. SESSIONS, ASSOCIATE EDITOR

THE COVERED MILK PAIL.

That a covered pail will keep a good deal of the dirt out of the milk cannot be denied, and that purer and better milk can be obtained by its use than by the usual open pail must be conceded. Just to what extent a covered pail will keep out objectionable bacteria, so far as we know, has never been determined, but that it will keep out a large number of them has been established as a fact. The Connecticut experiment station has carried on some experiments along this line that may be of interest to some of our readers.

The covered pail used by that station consisted of an ordinary milk pail with a tight fitting cover. Near one side of the cover there is a round hole about four inches in diameter into which is soldered a funnel with a fine wire gauze at the bottom. When the pail is to be used a few thicknesses of strainer cloth are fitted into the funnel and made to rest on the gauze at the bottom. The cloth extends over the edge of the funnel and is held in place by a small funnel or a broad ring which holds the cloth in place by pressing it against the sides of the stationary funnel.

From this description it will be seen that the pail is a very simple one, and is easily cleaned. To test the efficiency of the covered pail, two cows were used for the experiment that gave about the same amount of milk each. Cow No. 1 was milked into the covered pail one day and the second day cow No. 2 was milked into the same pail, while on the alternate days the open pail was used for the same cows.

The milk was then stirred and the amount of dirt in each pail determined with the result that the covered pail contained 37 per cent less dirt than the open pail. After the milk in the open pail had been strained it still contained 53.4 per cent of the dirt originally present. Therefore, the covered pail kept out 63 per cent of the dirt, while the ordinary strainer, after the dirt had soaked in the milk during the time of milking, removed only 46.7 per cent. It was further found that in the milk from the covered pail 29 per cent of the total number of bacteria were excluded as compared with that in the open pail and 41 per cent of the acid-forming species were also prevented from gaining access to the milk. Straining the milk from the open pail removed 11 per cent of the total number of bacteria and 17 per cent of the acid-forming species.

Contrary to what one would expect, the milk from the covered pail did not keep sweet so long as did the unstrained milk drawn into the pail, nor did the strained milk from the open pail keep sweet so long as the same milk unstrained. The difference in the length of time it kept sweet, at a temperature of 70 degrees F. amounted to seven hours. The explanation of this is stated to be that straining probably removes certain species of bacteria which, if present in large quantities, prevent the acid-forming species from growing rapidly.

While it is not likely that many farmers will adopt the covered milk pail, it would seem as though those who are selling milk to customers in town could do so to great advantage. As has been shown, a large number of bacteria are excluded by the use of the covered pail, and if milkmen would explain this to their customers and show them the precautions they are taking to deliver clean milk, they would be able to work up a lot of select customers who would be willing to pay a premium for such milk. Try it. It pays to be ahead of the majority.—Farmers' Tribune.

GOATS' MILK.

Interest in the milk goat is spreading. One of the latest to show an awakening along that line is the northern end of the Pacific Coast. The Ranch in a recent issue says:

We would like to hear from parties who raise milk goats—and can probably help make an occasional sale for those who have any to sell. The following brief notes should be of interes to those who keep milk-giving goats. Those who are familiar with the subject pretty nearly all agree in their claims as to the value of goats' milk for invalids, for children and for cookery. Some of them regard it as most beneficial when taken medicinally for certain diseases or ailments.

Goats' milk is especially recommended for infants because of its similarity in composition to mothers' milk—and medical literature is full of instances of success attending the use of this milk with children that, previous to its use were rapidly wasting away.

Most authors who are assured of the complete digestibility of goat's milk, and who recommend its use above all others, base their opinions on results obtained from feeding children several months old.

The trouble in this country has been that the goat was so long an object of ridicule among those who never undertood its value, that a false impression has sprung up, or rather exists, in regard to keeping goats or using their milk. The American public is largely of the opinion that goat milk has a peculiarly disagreeable odor or flavor. This it not true in properly managed dairies. Those who fully understand the causes that produce ill flavored milk in cows, would not expect any radical difference in the goat. If the goats are permitted to roam the streets and alleys at will, and pick up garbage, one may expect to find the milk off in flavor; again the principal source of bad odor so frequently noticed in goat's milk is the dirt which falls from the animal's body into the milk at milking time, another common cause is the buck, whose skin emits the odor so characteristic of nearly all breeds of goats. It is specially objectionable to have the buck near at milking time, as the milk readily absorbs the odor.

Sharples TUBULAR CREAM SEPARATORS

We want you to know Tubular Cream Separators as they are

Investigate the low can and enclosed gears. Tubulars have neither oil cups, tubes, nor holes—they oil themselves. They have bowls without complicated inside parts—hold the world's record for clean skimming, durability, capacity, easy turning and easy washing—save half the work—greatly increase the amount and quality of butter—are wholly unlike all other separators. Write for catalog R-200

THE SHARPLES SEPARATOR CO.,
Toronto, Can. West Chester, Pa. Chicago, Ill.

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA

THE BUFFALO
Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.

We manufacture BUCK RAKES, Stackers, Gang Plows, etc. Write or see us before buying.

We Have a Good Assortment of Second-Hand Presses on Hand Now

L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. W. C. MARBLE, Secretary. J. E. FISHBURN

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

MEALFALFA

Reg. U. S. Patent Office

FOR HOGS

Alfalfa being a highly protein food it is just the thing for hogs, as it not only prevents the loss of fat in the animal, but builds it up. When mixed with other grain into a slop, you have a rich green bulky food, a first-class ration for your hogs, that will fatten them quickly and put them in fine condition for market.

The brood sows will thrive on it and it will stimulate their milk flow. For young pigs you have a food hard to beat. MEALFALFA is in the finest form for mixing with skim milk and then you have a slop that has nourishment in it and will fatten the little pigs rapidly, make them hardy and stimulate growth by furnishing them the material for blood, muscle and bone.

MEALFALFA is put up in 100-pound sacks. A very handy size for shipping.

Stockton Mealfalfa Co.
STOCKTON, CAL.

When writing advertisers mention Cultivator.

DOKE STOCK FOOD COMPANY
MANUFACTURERS OF
DOKE'S STOCK AND EGG FOODS
2810 CENTRAL AVE. - LOS ANGELES

Finest Food on the market for Stock
Best Egg Producer and Keeps Poultry Healthy
Greatest Invigorator known for Thin Horses

ASK YOUR LOCAL DEALER FOR IT

Riverside Herd of Holsteins
CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON
884 James Flood Bldg., San Francisco

DE LAVAL SEPARATORS
AND OUR LINE OF DAIRY AND CREAMERY MACHINERY

are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.

DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

The milk of properly fed and properly managed goats has no flavor to distinguish it from cow's milk, except perhaps its extra sweetness and creaminess; in short, it is only distinguishable by its superiority.

Milk goats are found in all parts of the world, but, with the exception of Switzerland and a few of the other European countries the varieties are so numerous that no effort has been made to classify them.

It is stated on good authority that there are in Switzerland no less than sixteen pure breeds of goats. The Swiss breeds now represented in the United States are the Toggenburg, the Saanen, and the Schwarzwald, and importations are increasing very rapidly.

Although the origin of our native American goat is obscure some very excellent milkers are often found among them.

So far there has been very little dealing in milk goats in the United States, and therefore no really definite price. The common American goats can be purchased at from $2.50 to $10.00, the basis of price depending entirely upon the ability as a milk producer.

The best milkers of Malta sell at from $18 to $25, while the various breeds of Switzerland bring about $20 each. In England prices are very much higher. A very fine milker in the latter country will sometimes bring as much as $40; if a pure-bred Toggenburger the price is apt to be $100 or more.

The first question most people ask concerning the goat industry is: "How much milk will a goat give?" This question can not be given a definite answer. Such matter as the healthfulness of the animal, character of feed, regularity of feeding, breed, age, etc., have an all important bearing on the quantity of milk produced.

A doe that yields less than a quart a day is not considered a good milker; if she yields two quarts a day she may be regarded as profitable. Indeed, it is stated by German writers that many goats yield ten times their body weight of milk annually, and exceptional animals as much as 18 times their weight.

The price to be obtained for the milk will depend largely upon circumstances. In a few instances where some of the milk has been sold the prices have ranged from fifteen to twenty-five cents per quart. In these cases the milk was not used for hygienic purposes, and no attempt was made to produce and care for it according to recognized sanitary methods. Not less than 25 cents per quart should be obtained where the milk is properly produced for consumption by puny children and sick people.

GROOMING THE HORSE.

Regarding the importance of keeping the horse in healthy condition by his "bath"—daily grooming—the Farmers' Tribune says:

The skin of a horse, like that of other animals, is a mass of excretory pores, which, if kept open, give a constant flow of watery fluid discharges, carrying off the effete waste material, which has performed its proper function in the maintenance of the body. The epidermis also is composed of an infinite number of glands which constantly pour an oily secretion to the surface, which is essential to keeping the skin flexible, as well as furnishing the necessary nourishment for the hair to keep it soft and glossy. It will not do, therefore, for these pores to get clogged, for in that case the skin soon would become dry, rough, hard and diseased; nor is there much danger of it except when the horse is hard at work. Then the secretion of watery fluid is heavier than when the animal is idle, and if the sweat is allowed to dry on the skin dust will accumulate, mixing with it and, if not cleaned off, fill and clog the pores. As a result the skin will not only become diseased, but the whole system more or less deranged. The impurities, unable to escape through the skin, will accumulate in different places and give rise to blisters, which, if neglected, may lead to blood poisoning, or something else nearly as bad. By regular, thorough grooming, however, all this will be prevented, the pores kept open and a healthier, thriftier condition of the animal maintained. A horse having a thick, tough skin will endure a tolerably sharp currycomb, which, used on another with a thin, tender skin, would be a positive cruelty. Whatever accumulations of dirt may be on the hair after the use of the currycomb a thorough cleaning out of the skin should follow by the aid of a good brush.

SHEEP DIPS.

The British Board of Agriculture allows of the use of no dip for sheep which is not accepted by the board. Amongst those accepted by that board are the following:

* * *

Lime and Sulphur.—Mix 25 pounds of flowers of sulphur with 12.5 pounds of good quick lime. Triturate the mixture with water to a smooth cream, and transfer this to a boiler of 20 gallons capacity. Make up the volume with water to 20 gallons, boil and stir during half an hour, when the liquid should have a dark-red color. If yellowish, continue the boiling until the dark-red color is obtained, keeping the volume at 20 gallons. When the liquid has cooled, decant off from any small quantity of insoluble residue, and make up the volume to 100 gallons with water.

* * *

Carbolic Acid and Soft Soap.—Dissolve 5 pounds of good soft soap with gentle warming in 3 quarts of liquid carbolic acid (containing not less than 97 per cent of real tar acid). Mix the liquid with sufficient water to make 100 gallons.

* * *

Tobacco and Sulphur.—Steep 35 pounds of finely-ground offal tobacco in 21 gallons of water for four days. Strain off the liquid, and remove the last portions of extract by pressing the residual tobacco. Mix the whole extract, and to it add 10 pounds of flowers of sulphur. Stir the mixture well to secure an even admixture, and make up the total bulk to 100 gallons with water.

The time of immersion recommended is not less than half a minute, but a much longer time would seem to be necessary to reach the eggs and insects concealed near the roots of long fleeces or under hard scabs.

ELECTRIC CURRYCOMB.

Chicago has the latest—an electric currycomb. The Country Gentleman thus describes it:

To the ceiling are secured two small dynamos. From each long, flexible tubes depend, and attached to each of these is a small brush buzzing around in a dizzying whirl, after the fashion of the buzzers which seem to the victim in the dentist's chair like overgrown sawmills set at liberty. All the men have to do is to keep moving the brushes about, and with the invasion of each new portion of the animal's anatomy dirt and dust are sent flying from the hair of the horse. Both men and animal seem to be enjoying the experiment immensely.

Expert hostlers say it takes about twenty minutes to clean a horse with the ordinary currycomb, and about four with the electric brush.

No poor animal should be bred, as your increase only doubles your undesirable animals and retrograding is the consequence.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."
When writing advertisers mention Cultivator.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
Jerseys with a record as milk and butter producers
Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys
Sons of Imported Golden Marquis out of prize winning and tested dams. for sale.
L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

Berkshire Hogs ♦ Dairy Shorthorn Cattle
I am booking orders for pigs for September delivery. G. A. MURPHY, PERKINS, CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

FOR SALE OR TRADE
A JERSEY RED BOAR AND TWO SOWS, a year old, and a litter, a month old, of five and one of seven pigs. Will trade for alfalfa, baled, or for wheat or corn.
Address Altadena P. O. House corner Mendocino and Maiden Lane.
Mrs. Bridget Hill.
When writing advertisers mention Cultivator.

Holsteins For Sale
From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.
MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

PAXTON'S VETERINARY REMEDIES
for Horses and Cattle. Write for circular.
Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles
Laboratory at La Porte, Ind
When writing advertisers mention Cultivator.

Registered Shorthorns
—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Lanra Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory
322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.
When writing advertisers mention Cultivator.

REMOVING WARTS ON HORSES.

I have read of a number of ways of removing warts, but have never read of my way. It is easy, sure and harmless. Make a strong string of harness or shoe thread, four or five strands, wax well together. Tie tightly around wart close to body. In a few days the wart will shrink. Then tie another string tightly back of that. Two or three times tying in this manner will effect a cure. The wart will dry up and drop off, leaving a very slight scar. I had a team of colts, one with a wart on shoulder where collar comes and the other had two large bleeding warts on face near the eye. I took them off in this way three years ago and they are all right yet.—Cor. Dakota Farmer.

INFIRMARY FOR HORSES.

With increasing number of hospitals for humans, it is not strange that dumb brutes are coming to demand similar rights for themselves till now it is quite common for horses to be taken to the hospital and may some day be as much so as it is for the human race.

It was our pleasure a few days since to visit the horse infirmary of Dr. Oliver, in the city of Los Angeles. Dr. Oliver has given advice to Cultivator readers as to treatment of diseases of stock and has been of much aid to many of our readers.

The infirmary in question is located at 318 E. Second street and is certainly fitted for handling the various troubles with horses or cows. The entire floor of the building is covered with a good cement paving, even to the box stalls, of which there are several, with every convenience for the comfort of the animals. Of course, the animals are not left upon the cement floor, but the entire surface of the box stalls are covered with a wooden grating which may be removed and the entire surface of the floor flushed off to the gutter which runs through the center of the building. In the rear, or the annex, is an operating table which is possibly common with the profession, but to the writer was a most interesting sight. It consists of a large, solidly built table, the top of which is on a hinge, and so constructed that it will turn from its horizontal position to a vertical, the edge of which reaches nearly to the ground. The horse is led alongside of this table, the top of which is vertical, and the various wide straps or webbing brought about the body and quickly fastened in an automatic clutch, all of which, when accomplished, binds the horse firmly to the table top. An attendant then steps behind the table and with a few turns of the crank the table top is lifted from its vertical position and tilted backward and in a very short period of time the horse finds itself firmly strapped, lying on the top of the operating table. This brings the horse into position, which makes any operation needed comparatively easy to perform. Some very skillful operations have been performed in Dr. Oliver's infirmary, which have saved the lives of valuable animals.

Be kind but firm with the bull. Handle him with consideration and a good stout ring in his nose. At times these tame fellows forget their bringing up, and then someone gets killed or crippled for life.

With nearly all the stock the profit is in breeding and feeding for quick growth and early maturity.

ABORTION.

This will continue to be a live subject with every dairy farmer for years to come. For if he has not felt its curse he does not know how soon he may. Meantime we can only continue to give every item of knowledge that promises, even in the least, to lessen the trouble. It was years before an efficient remedy was found for that dread disease, milk fever. Now no one who is well read dreads it at all. A writer in an exchange gives his experience with abortion as follows:

"I give each cow ½ oz. Calvert's No. 5 crude carbolic acid three times a week, or daily if necessary. Take the prescribed amount of acid, add a little glycerine, to make a perfect emulsion, mix with sufficient cold water to make a bran mash for each cow; then add the bran, mix thoroughly, and divide the mash equally among the cows. In some cases a cow will, for a time, take objection to the smell, and in such cases, I commence by giving her a quarter ounce or less.

All cows should be frequently injected with an antiseptic solution, say a three per cent solution, of Zenoleum. These injections should be given at intervals of a fortnight, during pregnancy up till within six weeks of calving. In any case where abortion is suspected to be in the herd, the bull should be carefully disinfected after serving each cow, by injecting the sheath with a disinfectant solution.

"I have also found excellent results, by carefully disinfecting the hindquarters of the cows, after milking, with a solution of creolin, 1 in 30 or the Zenoleum. This is easily done with a garden syringe, and is an excellent means of preventing the germs of abortion from entering the womb.—Hoard's Dairyman.

Fly time is at hand and a dark shed where the cattle can take refuge during the heat of the day is not only a humane provision, but the stock will take on more flesh for having it.

The letter E does not appear in the word "dairying" but it is the most important factor in the literature upon that subject. Witness the magic words breed, weed, feed.—Hoards.

The health of the sheep affects both the quality and the quantity of the wool.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

LUMP JAW.

Editor Cultivator: I have a cow that is apparently in good health, but within the last few days I have noticed lump on one side of her lower jaw and it is growing larger. The lump is hard and seems to be fastened to the bone and as large as a teacup. Can give no cause for it. Kindly give remedy in Cultivator.—Subscriber, Pomona.

This is apparently a case of lump jaw, or actinomycosis, and is due to formation of peculiar tumors, usually on the jaw, though they may be on various parts of the body. It is caused by the growth of certain fungus. This disease has been observed for many years, in some cases has been confounded with tuberculosis. The course of the disease is quite slow and in this case where it appears on the jaw, will in time interfere with mastication. It is thought to be caused by the fungus being carried to the mouth through the food which, if injuring the membrane, may give lodgment for the spores of the disease, which in turn reach to the bone, and then the trouble begins. The animal should not be allowed to run with others not affected, though the chances of infection are very few. Treatment as given by Dr. Oliver is as follows:

Apply Churchill's iodine externally once a day. Give iodide of potassium internally, teaspoon twice a day.

BAD TEETH OR INDIGESTION.

Editor Cultivator: I have an eight-year-old mare, fairly valuable, has been gradually getting poorer, losing appetite for past month. Eats just enough corn fodder and green grass to keep her alive. Rarely eats any grain or bran. Most of time in pasture of Bermuda and alfalfa. She does not seem to have bad teeth nor, so far as I can see, anything wrong excepting loss of appetite and is hide-bound. Can you give remedy?—J. H., Santa Ana.

This certainly looks like a case of something wrong with the animal's teeth or with her mouth, though we note you say her teeth are all right. But Dr. Oliver suggests that you have the mare's mouth examined by competent veterinary dentist. He thinks you will find some abnormal condition which must be attended to. Give dessert spoonful twice a day of the following mixture: Tincture gentian, six ounces; Fowler's solution of arsenic, eight ounces; tincture nux vomica two ounces.

CLIMATE AND CROP REPORT

The weather and crop conditions for the week ending July 31 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—Clear weather prevailed during the week in the interior and foggy or partly cloudy weather in the coast districts. The temperature was slightly below normal.

Grain harvest is nearing completion in nearly all parts of the State and threshing is progressing rapidly. Barley is a good crop in most places, but wheat and oats are considerably below average and of inferior quality in many sections. They hay crop is the best for several years. Sugar beets have a high percentage of sugar and the yield is heavy. Beans and hops are doing well, but the yield of hops will be rather light. Corn and vegetables are making good growth.

Grapes are rapidly maturing and some varieties are in market; the outlook is good for a very large yield in nearly all sections. Fruit picking, drying and canning are in progress and considerable quantities of fresh fruit are being shipped. The yield of deciduous fruit is fair, though below average. Walnut blight is quite seriously affecting many orchards. Citrus fruits are in good condition.

Eureka Summary.—Cool, cloudy and foggy along the coast all the week. Crops are doing well. In the interior the weather was clear and warm; crops are suffering for moisture. Grasshoppers are doing considerable damage to vegetation on the highlands.

Los Angeles Summary.—The cool, cloudy weather is favorable for beans and root crops; it lessens the demand for irrigating water, but causes fruit to dry slowly. Orange trees are putting out heavy new growth; the fruit is still dropping, but prospects for a good crop continue.

DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES
Simplest Press Made.
LOW BRIDGE
Lifting Jack goes with each Press. Powerful—puts full weight into box car. Tracks with a wagon; 2 horses draw it on common roads.
Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

IMPERIAL VALLEY HERD
DAIRY SHORTHORN BULLS FOR SALE
Admiral Dewey 183493 and King Edward 184393 at head of herd. Address
Fred Fuller & Bro. Imperial, Calif.
When writing advertisers mention Cultivator.

WIRE FENCE
CLOTH GOODS NETTING WORK BARB WIRE
HOG COW HORSE SHEEP
WEST COAST WIRE & IRON WORKS 19 FREMONT ST. SAN FRANCISCO
When writing advertisers mention Cultivator.

Increase Your Profits
What's the use of trying to skim cream with a lot of pans or crocks, no end of hard, tedious work and then lose half to fully as much cream as saved? Or perhaps you use one of those tin-can affairs that borrow the name of "Separators" but forget to take along their results. Don't. There's a better way—easier, quicker, far more profitable, absolutely sure and perfectly safe. It's the "U. S." way.
DELHIE, MINN., June 6, 1905.
"I purchased a No. 6 U. S. Separator Feb. 1, 1905, and sold cream the first month to the amount of $52.52, the product of 8 cows. The month previous to getting the Separator the 8 cows produced me about $25. This herd of cows is about the average herd, three of them being heifers. I can heartily recommend the U. S. to all who want a first-class Separator.—H. A. DRYER."
110 per cent. increase! Pretty profitable investment, wasn't it? Yet only one of many thousands that prove the "U. S." way the most profitable. Isn't it worth investigating? That costs nothing. Send for illustrated Catalog No. 550-A, which will tell you all about it and show you how and why the Improved
U. S. Cream Separators
MAKE THE LARGEST PROFITS
VERMONT FARM MACHINE CO., BELLOWS FALLS, VT
412 Prompt Deliveries from 18 Distributing Warehouses throughout United States and Canada
Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

FORCING THE MOULT.

(Continued from last week.)

When the Feathers Drop.—The change from the low feed to full rations will be followed by the rapid dropping of the feathers. The space under the roosts will be carpeted with feathers and they will be seen blown into the corners of the yard. The feathers will drop off all over the birds so that many of them will be almost naked. This result in forcing the moult will be seen in most of the birds. A few will fail to respond, more if you do not follow the plan outlined.

Keep the full feed up until the birds get the new coat of feathers and begin to lay a few eggs. Then feed them as you do the fully matured pullets, avoid overfeeding of heating food, lest you start another moult in the late autumn.

The birds that you are taking through the forced moult need to be well housed. They should have a tight roof over them at night, and a house that lets in fresh air in abundance, but without drafts of air. Cool fresh water needs to be given several times a day. Lice and red mites must not worry the birds. Sharp grit should be within reach at all times. If you wish to use the dry-feed hopper method of forcing the moult, it is easily done. Have three parts to the hopper. During the time you are reducing the flesh keep the hopper filled with bran, grit and charcoal. When you push the full feeding at the end of two or three weeks, fill the hopper with cracked corn, meat scraps, charcoal and grit. Do not neglect the green food and give good care to the moulting flock.

* * *

What About the Gain?—There is good money in the forced moult. No one more than the practical poultryman needs to use this method to increase his profits. Prices of grain are high and while eggs sell for good prices in the fall and winter, it is of no advantage to the hen man, unless he can get eggs to take to the market. Let the pullets do the best of your winter laying but do not neglect anything that will induce the older birds to have a good share in the profits of cold weather.

* * *

Treatment of Young Stock.—Reduce the flesh of your old stock of laying hens, along late in August. Having done this, feed for rapid growth of feathers. After they are feathered do not feed these moulted hens so much heating food as to the pullets. They will not stand so high feeding without getting over-fat and inactive. Lazy, too fat, yearling hens make very poor winter layers, and are second quality birds for spring hatching. It is only after they have set on one litter of eggs and got thin that they produce eggs that are worth incubating.

* * *

Put to the Test.—Dr. Sanborn ends this interesting article by saying: "I have used this forced moult for the last three summers with satisfactory results. This year I shall feed less in the first period, using little except bran and green food, and shall use the hopper method more exclusively than in the past years. I have an apple orchard for both hens and chickens. It is an ideal place for keeping poultry. The moulting birds would do very well in this orchard with no added food, but I never thought best to follow this plan. The results I have gained have been too good to try any other plan."

* * *

It is a great satisfaction to me to find that Dr. Sanborn, who is considered one of the best authorities on chicken breeding in this country, should so heartily recommend the plan which for the past two years I have outlined for the readers of the Cultivator for assisting the moult. I met a very intelligent gentleman a few days ago at Compton, who told me that he thought apples prevented hens from laying. I suggested to him that apples were only falling at moulting time and that it was probably the moult which affected the egg basket. I would like to call his attention to Dr. Sanborn's words that "for both hens and chickens it is an ideal place," speaking of his apple orchard.

The "dry feed hopper" method of which Dr. Sanborn speaks and which Dr. Nottage, Mr. Park, and many others approve is becoming more popular every year. It is simply giving the fowls their food dry. Some years ago a method of feeding called the "Sampson method," price one dollar for the formula, was largely advertised in the west. It was simply the ingredients of the mash mixed together without any liquid and fed in the morning. Then the hens had to eat it slowly or choke, they took a few mouthfuls and then visited the drinking fountain; at noon I gave them green food and at night a feed of grain. It was a fairly satisfactory method, but fed in open troughs a good deal of the food was wasted.

The more I study the "dry feed hopper" method and the longer I try it myself the better I like it. I am now feeding half grown chicks in this way, thorough-bred Black Langshans nad White Rocks, both from prize winners. I commenced with chick feed when the twenty-six were hatched, have not lost one; they are all great vigorous fellows, three months old. I killed one for dinner yesterday that weighed dressed over three and a half lbs. The dry feed I am giving them is two parts bran, two corn meal, two Calfalfa meal, one part Darling's beef scraps. I sometimes add one part of Kaffir corn, or one part of rolled barley.

"I must sell or give away all my hens," said a gentleman to me two days ago. "Why?" I asked in surprise. "Because my wife is going away and I have not time to feed them during her absence," he replied. I then described the Dr. Nottage plan of feeding the fowls once a week and I think he decided to try it. The only trouble he may have is in watering the fowls. Fowls drink about twice as much water and must have all they can drink when fed dry food. Next week I will discuss more fully the dry method of feeding in its various phases.

* * *

EDITOR'S QUESTION BOX.

A Good Layer.—P. G. W., San Jacinto): I have a standard bred Silver-Laced Wyandotte hen which commenced to lay January 15th last, and in the seventy-five days following she laid seventy eggs. During the six months ending July 15 she laid 145 eggs. Can you tell me how this record compares with other laying records? Also would it be advisable to mate this hen with one of her own chickens and if so, how old would the chicken need to be? We have found the poultry columns in the Cultivator of very great interest and value.

Answer.—You are to be congratuluated in having so splendid a layer; she is far above the average and by keeping her pullets and carefully watching their egg records you may build up a phenomenally fine strain of grand layers. I would, were I in your place, mate her to one of her most vigorous sons. He should be nine months old, or older if you have any older, and above all things do not let her run with any other male from this time on, even though you may not want the eggs now for setting.

* * *

Standard, Color, Etc.—(A subscriber): In an article in Cultivator on Line Breeding," you use the expression, "if they were up to standard." Please tell me how I may tell if mine are up to standard. I understand very little about chickens as yet.

Is color in Barred Plymouth Rocks an indication of "blood?" I have several pullets much darker than the cockerels, which are very light colored. Does that show that they are not thorough breds?

I want to line breed some of these, but having a few very fine White Leghorns I thought it would be better to cross-breed some of them. Would it not be better to use the Leghorn rooster with the Barred Rock hens than

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS

—AND—

BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

When writing advertisers mention Cultivator.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food

ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

HOW 1700 HENS BUILT A $3500 RESIDENCE

Story of a Southern California Poultry Farm

H. D. FREEMAN,
Santa Maria, Cal.

(By A. R. COULSON.)

On our automobile trip to Los Angeles, we found that there were several large poultry farms situated near Santa Maria, about four miles from town. As we were interested in seeing some of these large poultry farms we made a special trip out for that purpose. We first called on Mr. A. J. Freeman, who cordially received us, and made us feel heartily at home, and Mr. Freeman said he would take the afternoon off and show us the richest country in the world. So we took him, his wife and two children, in our machine, and we rode out for several miles to the new oil country, where we saw oil flowing in streams, and there were three large lakes of oil, as smooth as glass, and reflecting like a mirror. Whole lakes of oil, millions of dollars worth, and a little further up the mountains were two large gas wells, which were on fire, and the flames went up hundreds of feet in the air, and could be seen for many miles away, and they had been burning night and day for many months.

* * *

On our way back to the ranch, Mr. Freeman said we would go in and see his brother, Mr. H. D. Freeman, who is recognized as the largest and most successful poultryman of that country. Mr. H. D. Freeman was rather surprised to see us all, but welcomed us cordially.

Mr. Freeman invited us into his new residence, which is an elegant house of fourteen hard-finished rooms, eight closets, and cement cellar floor. His ranch covers 200 acres of good, rich land, and all surrounded with poultry wire netting fence to keep out all wild animals. He keeps 1700 laying hens, and for the past several years has kept books, recording the receipts from poultry, cost of feed, etc., and he showed us the books that showed how MANY MORE EGGS were laid, and how MUCH MORE THE RECEIPTS were the last year SINCE FEEDING COULSON'S FOODS, than they were for two or three years before, from the same number of hens. During the last year, from May 1, 1904, to May 1, 1905, the 1700 hens netted him a profit of over $2000.

* * *

EGG RECORD.

1700 hens fed one year on COULSON'S EGG FOOD. One meal each day. Started April 18, 1904. Eggs increased from 40 to 73 dozen a day.

Mo.	No. eggs.	Doz.	Amt. rec'd for eggs.	Rec'd P'ltry Sold
1904—				
May	23,472	1956	$343.16	$14.80
June	19,464	1622	292.56	
July	17,246	1437	335.70	60.14
Aug.	11,882	990	282.90	12.26
Sept.	8,412	701	201.28	78.88
Oct.	9,084	757	225.09	34.20
Nov.	9.480	790	310.68	57.22
Dec.	11,042	920	319.49	
1905—				
Jan.	15,780	1315	304.40	
Feb.	21,840	1820	324.10	
Mar.	25,040	2087	347.39	
Apr.	23,228	1936	346.61	96.20
	195,970	16,331	$3633.36	$263.20

H. D. Freeman's new residence, 14 rooms, 8 closets and a cement basement; Cost, $3500.00. Built from the profits of 1700 laying hens (in 18 months time) which were fed on Coulson's Egg Food.

NOTE—During the last month, April, hens were only fed one sack a day of the Egg Food.

Amt. rec'd from eggs sold	$3633.36
Amt. rec'd from young roosters, etc	263.20
Value of eggs and poultry used in family	178.20
Total	$4074.76
Value of 510 sacks of Coulson's Egg Food fed	$ 892.50
Value of 577 sacks wheat, barley and corn fed	1115.20
Total cost of feed for year.	$2007.70
Net profit, 1700 laying hens fed one year on Coulson's Egg Food as per careful daily record	$2067.06

Scene on Freeman's ranches near Santa Maria. These fowls are all fed on Coulson's Feeds regularly.

NOTE—The poultry sold was young roosters, etc., fed with above supply of feed.

Figuring the value of wheat, oats and barley, at what they were worth if he was to sell it, as he raised his own grain (about 150 acres), his profits are really much more than as above stated, for raising his own feed, he did not have to buy much more than 510 sacks of Egg Food. He fed them 1½ sacks a day of it, excepting during the months of March and April last, he used but one sack a day and the hens averaged over two cases of eggs a day during these months. From now on, June 1st, he feeds them 1½ sacks a day for the morning meal.

During the past year he has put up fifteen new poultry houses, and also built a $3500 residence, which he moved into on April 25th. As the poultry has proved so profitable when fed on Coulson's Foods, this year he is raising several thousand more (they are fed on Coulson's Chick Foods), so that by fall he will probably have over 3000 laying hens.

Mr. Freeman's brother, Mr. A. J. Freeman, also has about 1000 laying

Freeman's White Leghorn Poultry Farm

Santa Maria, Cal. May 20, *1905*

Coulson Poultry & Stock Food Co.,
Petaluma, Cal.

Gentlemen:-

One of your salesmen was through here a year ago and I promised him I would feed Coulson's Egg Food for one year and keep a careful record of results and compare with former years. So I bought five tons of it to begin with, and on April 18, 1904, started to feed one and a half sacks a day of it, as the morning mash. At that time I was getting about 40 dozen eggs a day, but after I had fed it for ten days the hens began to increase, and by May 10th was getting as high as 73 dozen a day. During July, August and September they averaged from 25 to 40 dozen a day, whereas in former years, without your Food they would lay but very few eggs during the molting season,-one or two dozen a day being their average.

The record also shows for the months of October, November and December an increase of from 40 to 150 eggs per day over the previous year, with the same number of hens.

From May, 1904 to May, 1905, the 1700 hens have netted me more than $2,000.00 profits. I have put up fifteen new poultry houses and also built a new fourteen-room residence, into which I moved Apr. 25th. So you can see I have found it very profitable indeed, to feed your Egg Food, and I am now glad to place with you another order, this time for a carload of 15 tons, 330 sacks. My brother, A. L. Freeman and my neighbors Eames and Chaffin will take some of this car, so in a couple of months we will need another carload. The feed is all right.

Yours very truly,
H. D. Freeman

POULTRY RAISING A PROFITABLE INDUSTRY

The Freeman Farms

The Freeman poultry farms are the largest in the Central Coast counties. They use Coulson's Balanced Feed and make large profits.

H. D. Freeman Santa Maria Calif

July 1904

EGG RECORD

OOZ.	DATE	Eggs Gathered	Eggs Sold	Amount Received for Eggs Sold	Amount Received for Poultry	Paid for Supplies	Value of Eggs and Poultry Used in Family	Paid for Feed and other Supplies
51-3	1	615	210	41 65				
51-6	2	618						
55-1	3	661						
51-10	4	622						
53-6	5	642	180	40 96				
53-	6	636						
52-8	7	632						
50-1	8	601		2 40	Lee			
53-8	9	644	220	49 87				
50-2	10	602						
52-	11	624			14 80			
49-2	12	590			33 18			
48-2	13	578	185	44 67				
46-11	14	563						
43-2	15	518						
42-8	16	512	165	40 02				
41-2	17	494						
40-	18	480						
41-2	19	494						
40-5	20	485						
39-1	21	469						
40-2	22	482	185	43 12				
41-2	23	494						
42	24	504						
42-8	25	512	153	33 71				
43-4	26	520						
44-3	27	531						
44-7	28	535						
43-4	29	520	180	39 30	12 16			
44-9	30	538						
44-2	31	530						
				$335.70	60.14			

Fed 46½ sacks Coulsons Egg Food @ $1.75 ea $81.30
45 sks of wheat valued at 101.10
10 " " corn " " 13.20
195.60

RECEIVED FOR EGGS $335.70
Cost of feed 195.60
Profit for month $140.10

hens, and he is now raising several thousand more little chicks on Coulson's Special Chick Food, so that by next winter he will have a much larger flock. He has also kept a record of amounts received from eggs sold for the past eight years, and SINCE FEEDING COULSON'S EGG FOOD, in comparison to the number of hens, THE PROFITS HAVE BEEN MUCH LARGER. His receipts from eggs sold show the same excellent results.

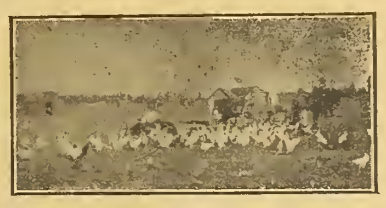
Mr. Eames, who has a ranch adjoining their farm, keeps a flock of 800 laying hens. He also has fed Coulson's Egg Food for one year, and has kept a record showing the increase over previous years.

Also Mr. Chaffin, another neighbor, has 600 hens, and has fed Coulson's Egg Food for more than a year, with marked increased profits from its use.

A 15-ton car of Coulson's Egg Food was shipped to H. D. Freeman on May 22d, and will be divided among these poultrymen, so that they use a carload of Coulson's Egg Food every two or three months.

For every dollar that you invest in Coulson's Egg Food, you will get back $3.00 worth of eggs. For every dollar ($) that you invest in Coulson's Egg Food, you should make $2.00 profit. Hundreds of poultrymen are making it and so can you.

A. J. FREEMAN,
Santa Maria, Cal.



Early morning scene on the Freeman ranch. Feeding Coulson's Egg Food.

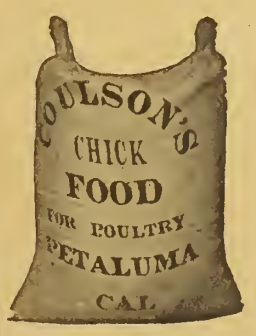
Those who are using $500 worth a year of Coulson's Egg Food are making in return more than $200 a year profit.

So remember that if you feed your fowls Coulson's Egg Food, the year round, that for every dollar ($) you invest in the food, you can make $2.00 profit in return, according to what others are doing.

Stay with the Coulson Food—feed it to your hens right along every day, for there is no better feed made.

You can buy Coulson's Egg Food and Coulson's Chick Foods from most any feed store; or if not, write to factory, give us name of your dealer, and we will send you a free Poultry Account book, as well as fectory prices of Coulson's Foods.

Beware of imitations.



The Coulson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

vice versa. My Leghorns were hatched the end of March and some of my Rocks the 10th of February. When can I use them for breeding?

Answer.—When I said "up to standard," I meant conforming to the description of fowls in the American Standard of perfection. The Barred Rock males are lighter than the females although the Standard requires them to be of the same shade. To get this breeders practice the double mating, keeping one pen to raise pullets and one to raise cockerels.

I think it a great pity to mix breeds as it gives nothing but mongrels. You will make more by keeping your stock pure.

Fowls hatched last spring will make good breeders next spring.

* * *

INDIAN RUNNERS, AND HOW I SAVED MY TURKEYS.

The following letter from one of our subscribers will prove very interesting and also may be useful to some of our readers:

"I feel sure that it will interest you to learn that one of my Indian Runner ducks, a daughter of those purchased from you, stole a nest a month ago, and today came out with five dear little ducklings. I believe from all that I have read that this is quite unusual. Another wants to sit, but it is so late in the summer that I am not giving her any eggs.

Another thing that may prove of intrest to you is the fight I made to keep a young turkey alive. He was chilled during a heavy, rain-like fog about ten days, or rather nights ago. He developed some difficulty in breathing, making a queer sound at every breath, and suffered from acute watery diarrhoea. He lay on the ground too weak to hold up his head some of the time. I first gave him six drops of whiskey and then a grain of quinine. I repeated the whiskey three times, at intervals of three hours and gave him another grain of quinine. I gave him a double dose of whiskey at night, but he was, if anything, worse in the morning. Thinking that nothing could save him, I resolved to experiment on him, so I rubbed kerosene all over his neck, breast, legs and under his wings, and gave him a teaspoonful of blackberry brandy, some little pieces of beef cut and forced down his reluctant throat, and then an onion cut in little strips. He would not swallow anything unless I pushed it past a certain point. Finding him still alive at noon, and at least no worse, I repeated the performance. As he seemed a shade stronger I repeated the treatment, keeping on this way for four days, and the fifth morning he came runuing up to be fed with the others, and has run everywhere with them and seemed all right ever since. As he was nearly half grown I could not bear to lose him. I do not know how the treatment would act on very young turkeys, but I think that the kerosene keeps out the dampness, and the blackberry brandy cures the diarrhoea. Of course if he had not been forced to eat he would have died from weakness.

I never raised turkeys before, and out of fifteen I had lost ten while very small from getting chilled on foggy nights, so I had determined to lose no more if doctoring and nursing would help me.

Answer.—Pray accept my thanks for your interesting letter. Indian Runners are considered as "non-setters" and usually desert their eggs when half hatched. About the turkey, it certainly was heroic treatment. I think the blackberry brandy was just the right thing and of course the kerosene helped, but was pretty severe; it will take all the skin off, just like a blister. I am very glad you saved its life; it just proves what I have often said that a good family medicine will have just as successful results with poultry as with human beings. In fact, if you can correctly diagnose any sickness amongst your fowls and use the same remedy as you would for the human family, you can be reasonably sure of success.

TESTING EGGS.

The farmer who sends his eggs to the market may be prone to think that the trials of producing them have been so great that they should be taken by purchasers without question and that the difficulties are all with him and not with the buyer. However, a few days ago, it was the privilege of the writer to watch the receiving and handling of a few cases of eggs in a large market house in Los Angeles, and it was quite surprising, the manner in which they were handled and how quickly the purchaser sized up the good, bad and indifferent eggs. Thinking possibly the producer might have a better understanding of the difficulties at the receiving end if we gave in the Cultivator a few words as to the condition of the eggs, we devote a little space to a description of what was there seen.

We may say that every egg in every case was tested with the result that a very large number of "seconds" and some that were so nearly unfit for use as not even worthy to go as "seconds" and others that were absolutely decayed were found. For instance, in a case containing thirty dozen eggs there are several dozen in the best of cases which will go as "seconds." Only one case in the day's run which we saw was marked perfect. The tag on this case showed thirty dozen first-class eggs. There were no "seconds, no "rots," no "shorts." The dealer told us that nearly every case which came in was short one or two or more eggs. All during weather such as has prevailed for the last few weeks, there were a few "rots" and almost invariably many "seconds."

Now the question may be asked, what is a "second?" In fact, that is a question which we asked the dealer, which led to the privilege of going into the testing room. He promptly asked us to "come this way" aud we were at once ushered into a small dark room in which the operator stood before a little box in which were two holes, nearly as large as a small egg and behind these holes were incandescent lights, those being the only lights in the room. The operator picked up two eggs, one in each hand, before the small holes. He determined instantly whether "firsts," "seconds" or "rots" and by a quick finger motion the two which had been inspected were dropped back into the palm of the hand and the other two brought forward and placed against the holes. The strong light, shining against the eggs, allowed him to determine at once the quality of the egg. If clear and no cloudiness appeared, they went into the "firsts." If a "floater," that is, the yolk had separated from connection with the white, by a quick turn of the egg he was enabled to determine by the appearance of the strong light. If the cloudiness was very pronounced then it was put with the "rots" as unfit even for baker's cooking. Some of the eggs which were shown to us were so badly decayed as to be absolutely opaque.

We asked the dealer what was the real condition of the "floaters" when broken and one was promptly broken and turned out on a piece of cardboard, when the yolk broke and ran over the board with the white of the egg, neither of them having any body and being more like water than a good, healthy egg. Such eggs as that are perfectly good for bakers' or general cooking purposes, but making a poor showing when used for poaching or general table use. The vast number of "seconds" at this time of the year makes them much lower than the 'firsts," for the reason that in the winter, when there are few of them, the bakers desire to get them as cheaply as possible, leads to picking them up so rapidly that they fall but slightly below the price of "firsts," while now the quantity is so great that the bakers realize they can get them at almost their own price and they fall four or five cents and even more per dozen below the regular quotations for "firsts."

We asked the dealer as to the lowering of the grade on these eggs coming in as they do and he said there were various reasons. Sometimes the farmer is careless in gathering but more often the time between the purchase at the grocery and reaching the market during the hot weather was sufficient to lower the grade. It was also influenced by the section from which the eggs came. For instance, at the present time he said there was great trouble with eggs from the Imperial valley and the San Joaquin valley. In both sections, the heat has a bad effect upon the eggs before they can possibly be gotten into the market.

He who waits to do a great deal of good at once will never do any.—Johnson.

America produces eggs to the value of three hundred million dollars a year. All the cattle and hogs slaughtered annually in this country are worth less, and so is the country's total annual output of both gold and silver.

BLUE ANDALUSIANS, Eggs after Sept. 1st
MRS. J. S. DUFF, 3145 S. Hoover St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.
When writing advertisers mention Cultivator.

Pure Bred Black Minorca Hens For Sale
Also some young birds of same breed. Inquire of D. M. HATHORN, COMPTON, CAL.
When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

JACOB KREGER
Breeder of
White Leghorns
Eggs in Season
ANAHEIM, CAL.
When writing advertisers mention Cultivator.

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States
When writing advertisers mention Cultivator.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. **LOS ANGELES, CALA.**
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

Queries and Replies

PEACHES.

Editor Cultivator: Kindly give the name of one or two good cling peaches and also a free stone; that is, the peaches the canners prefer and the best priced fruit. Also what kind of root the young trees ought to have. Some say a certain kind of root brings more fruit and also the borers don't like them.—S. L. S., San Jose.

There are several good orange clings, each similar and as a rule all good. The lemon cling is a good shipper and canner. The Tuscan, or Yellow Tuscan, is exceptional in quality, ripening with Early Crawford free stone. The Phillips is sometimes said to be preferred by canners to all others. It is later than the Tuscan.

In free stones, the Crawfords, Lovell, Foster and many others are good. The Muir is excellent as a drier, but not acceptable at cannery.

WEEVIL.

Editor Cultivator: I wish to learn of the process or method to preserve beans and peas from the attack of bugs while in the dry state or during the drying. I have tried some remedies suggested to me in past years without success. I notice that seedsmen keep their seeds.—E. F. B.

Doubtless our subscriber refers to the weevil which is a pest in many sections, especially south of Tehachapi. Late planting avoids much of the damage to growing crops, but we assume the inquirer is troubled more with pest in the dried product. For that the most successful treatment is placing in closed room and saturate the atmosphere with fumes of carbon bisulphide. If only a small quantity are to be treated place in jar or tub and close tightly after putting in small quantity of the bisulphide. Use great care to have no light nor fire about, for the stuff is most inflammable.

WHO IS THE CHAMPION?

Editor Cultivator: As many hundreds in California are now engaged in apricot work, it will be interesting to learn who has the right to claim the championship for apricot pitting.

We here in Fremontville claim it for Mrs. Chapman and her two daughters. On July 27 they pitted, in 10 hours' work, 92 boxes of 50 pounds fruit in each. As this lady is rather faster than her two young daughters, she had forty boxes to her credit. Can this be beaten or even equalled by any of your readers?

The 27th was record day in our little drier for the season. Besides the three ladies mentioned, the daughter of the house pitted 27, two sisters of fourteen and fifteen years old, fifty together. Two yard men thirty boxes; in all 199 boxes for eight pitters, or an average of 24⅞ boxes for the whole pitting crew.—M. W. P. Wright, Fremontville, Ventura county.

NEW PROCESS OF COOLING FRUIT

From an interview with A. R. Sprague in the Sacramento Union, we note the following regarding the new process of cooling cars of fruit before starting on their long eastern journey:

"The trial developed several things. It settled conclusively in the minds of all present that that is the proper method for the initial cooling of fruit, since in four and one-half hours of continuous running the car was left in excellent condition to go forward under regular refrigeration.

Some problems presented themselves in adjustment of the machine and the proper distribution of the cooling current to secure the best results in least time and also a question as to what temperature it is necessary to obtain in order to secure the best results in fruit shipments.

It will take some careful experiments to determine these various important points and I propose to work them out with this and similar machines at other points. After spending a few minutes in an iced car freshly loaded with fruit at a high temperature and closed up no one would afterward wonder that so often our unripe fruit even breaks down on its way to the East. Although the blower was applied to the car as soon as iced, the air drawn from the car was already suggestive of decay. Soon, however, all these gases were condensed in passing through the cold chambers and the air moving in the car was as fresh as a sea breeze. This, I am inclined to think, is of greater importance than a very low temperature of the fruit.

The theories of the slow movement of air under ordinary conditions do not at all apply when it is under pressure suction in a carload of fruit. Experiment only will determine this phase of the question.

The machine will be in continuous use with the cars of the California Fruit Exchange at Loomis, and when the method of using it to secure the highest efficiency is ascertained, the fruit growing and shipping public will be fully informed of such methods and results."

DEEP ORCHARD CULTIVATION.

(Continued from First Page.)

tached and one good deep furrow laid as nearly as possible over the subsoiler furrow. As the water follows this furrow, it naturally drops into the lowest depth of the line opened up by the subsoiler and not only following down to the lower end of row, but also breaks through sideways in the cross furrow made by the subsoiler. When the water reaches the bottom of orchard, that the roots of the trees have received a thorough drenching goes without saying. Just as soon as possible to get on ground afterwards, the smoother is passed over and the ditches filled so as to cover the moist soil with dry dirt as soon as possible. Later comes the deep cultivation which every orchard should have and more are getting nowadays than formerly.

These irrigations are given every six weeks, though this year the trees have received but one up to the present time and, though the day of our visit was quite warm, not a single leaf indicated any desire for water and the fruit was all of large size, indicating it had never suffered for water.

After the irrigation season closes, when the ground has become somewhat dry and hard, then another subsoiling is given, more likely furrowing diagonally through the orchard, so as not to strike the same lines which have been followed during the summer irrigation.

Mr. Wuest's neighbors had little patience with his method of work and one of them informed him that $1000 would not hire him to permit such tearing out of roots as he had given to his orchard. But sure it is the appearance of the orchard, which has never been fertilized excepting once with light dressing of commercial fertilizer and once with stable manure, indicates that the trees are not now suffering from want of fertility in the soil. Mr. Wuest said if he was to fertilize and had his choice, he would by all odds prefer the stable manure to the commercial fertilizer. But one warning he gave, and which we mention right here, though not exactly in the line of this article, and that was never to use manure from stables which bedded the animals with planer's shavings, and to show the force of his remarks he asked us to walk across the orchard where some especially heavy soil needed some "lightening" up. On that section of, as we remember, anywhere from fifty to one hundred trees, he had placed a large quantity of planer shavings. He said as a mulch it was magnificent and as some worked into the soil it seemed to work up far better and hold moisture prefectly, but while it was four years since this was done, that plot of trees could be outlined perfectly by their yellow and unhealthy looking condition. He said all other treatment since that manuring had been identically the same as with the rest of the orchard and only those trees on which the shavings had been put showed the yellow cast and refused to bear large crops of fruit. Therefore, he concluded, the only solution of the problem was that the redwood shavings had that which an orange tree, at least, did not like.

But to return to the question of tillage; allow us to quote from one of the old-time books on manures, by Harris. In that we note:

"Sir John B. Lawes has somewhere compared the owner of land to the owner of a coal mine. The owner of the coal digs it and gets it to market in the best way he can. The farmer's coal mine consists of plant food, and the object of the farmer is to get this food into such plants, or such parts of plants, as his customers require. It is hardly worth while for the owner of the coal mine to trouble his head about the exhaustion of the supply of coal. His true plan is to dig it as economically as he can, and get it into the market. There is a good deal of coal in the world, and there is a good deal of plant food in the earth. As long as the plant food lies dormant in the soil it is of no value to man. The object of the farmer is to convert it into products which man and animals require.

Mining for coal is a very simple matter, but how best to get the greatest quantity of plant food out of the soil, with the least waste and the greatest profit, is a much more complex and difficult task. Plant food consists of a dozen or more different substances. The three substances most difficult to get at are: nitric acid, phosphoric acid and potash. All these substances are in the soil, but some soils contain more than others, and their relative proportion varies considerably. The substance which is of the greatest importance is nitric acid. As a rule, the fertility of a soil is in proportion to the amount of nitric acid which becomes available for the use of plants during the growing season. Many of our soils contain large quantities of nitrogen, united with carbon, but the plants do not take it up in this form. It has to be converted into nitric acid. Nitric acid consists of seven pounds of nitrogen and twenty pounds of oxygen. It is produced by the combustion of nitrogen. How is organic nitrogen converted into nitric acid? It is brought about through the action of a minute fungoid plant. There are several things necessary for the growth of this plant. We must have some nitrogenous substance, a moderate degree of heat, say from seventy to one hundred and twenty degrees, a moderate amount of moisture and plenty of oxygen. A water-logged soil, by excluding the oxygen, destroys this plant."

That tillage is manure is one of the oldest saws of the science of agriculture. In fact, the original meaning of the word "manure" was "hand labor." "To cultivate or enrich by manual labor." The ancients, knowing the beneficial effects of stirring and admitting air to the soil, expressed it as manure as applied to hand tillage, which was afterwards applied to the dressing which was put upon the ground which, by accident, an ancient soil tiller discovered auswered the purpose to a certain extent the same as the ordinary "manure" or hand labor. Now we are prone to go to the other extreme and think the word applies only to a dressing of fertilizer applied to the surface of the soil, and, at the same time, think that tillage is simply keeping down weeds and preventing loss of moisture. Meantime there is, in ordinarily rich soil, anywhere from a ton to a couple of tons of each of the three elements most necessary and most expensive. Approximately a hundred pounds of each is all that is required for a crop. Then let us make available the natural, stored up wealth in our "coal mine," or better, our gold mine, for coal is of little value in this country. That one of the greatest essentials of converting these elements into available plant food is plenty of oxygen; and that to get oxygen into the soil, deep cultivation is necessary we believe is more and more realized by soil culturists.

It is estimated that the loss to the apple crop of this country from the codling moth reaches at least $20,000,000 annually.

Lime Your Lands
LIME, $2 50 PER TON
Time to buy. For particulars write
H. B. MATTHEWS, Riverside, Cal.

RANCH FOR SALE
13 acres 12 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R D. 1 RIVERA, CAL.
When writing advertisers mention Cultivator.

For Sale, 30-Acre Alfalfa Ranch
Choice location. Good Stand.
Plenty of water; will divide it.
T. B. HIMROD, Owner POMONA, CALIFORNIA Home Phone 496
When writing advertisers mention Cultivator.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.
When writing advertisers mention Cultivator.

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.
When writing advertisers mention Cultivator.

A MATTER OF SELECTION.

Said a little vulgar girl who was sneering at another
In accents that were very far from mild,
"You ain't got no father, you ain't got no mother,
You ain't nothin' but a horrid 'dopted child!"

"I'm quite as good as you," came the answer from the other,
"I was carefully selected from a lot;
But only look at you—your father and and your mother
Had to keep you if they wanted to or not!"

THOSE EVENING BELLS.

Those evening bells! those evening bells!
How many a tale their music tells
Of youth and home, and that sweet time
When last I heard their soothing chime!

Those joyous hours are passed away:
And many a heart that then was gay
Within the tomb now darkly dwells,
And hears no more those evening bells.

And so 'twill be when I am gone—
That tuneful peal will still ring on;
While other bards shall walk these dells,
And sing your praise, sweet evening bells.

—Thomas Moore.

A Bag of Money.

"The old man is going to New York tomorrow night with $10,000."

"How is he going?"

"By boat."

"That makes matters easy."

"Who's going to do the job?" asked the first speaker.

"Perhaps it would be well for two of us to go."

"And the two best at that."

Four men were holding the above conversation one evening in the sitting room of the man who spoke first! they were a gang of robbers of the "better class," if I may use that term in connection with stealing. In order to hold themselves above suspicion and gain valuable information they were all employed in Boston business houses of the most respectable character.

Their employers had every confidence in them, and each had dealt with every cent personally intrusted to his care in a perfectly honest manner, thereby proving himself trustworthy.

Another rule was that booty taken should not be investigated except in the presence of the four. Even in the trade of robbery there can be a sort of honor.

Louis Crawford was chosen to head this job.

"Twenty-five hundred apiece; not a bad sum. Disguise yourselves well and take no risks. You know the old man's habit of taking his money in that bag I took the pattern of," said the victim's secretary, Minot Ware.

"Don't give any more directions, our own mothers wouldn't know us twenty-four hours hence. Just hand over that pattern bag and let us go home and to sleep if we are going to be out tomorrow night," said Crawford.

The next afternoon Mr. George Cobb sent for his secretary.

"I am going directly from the office to the train tonight, and I want you to stay a bit later than usual and take my bag down; in fact I wish you would go all the way with me and do that business for me in New York tomorrow morning."

"Certainly I will go. It would be a pleasure," replied Ware, inwardly congratulating himself that he should be able to covertly assist his partners.

"Thanks, a few hours from you in the morning will save an important day for me, and you can be back here by tomorrow night."

An Avenue of Fan Palms.

"Do you see that old man over there," asked Mr. Cobb, when the train had started.

"The man with the long white beard?"

"Yes; he was on the last time I came this way and we got quite friendly; he comes from where I used to live in Maine and goes to see a son in New York."

Mr. Cobb was so fortunate as to get his Maine friend to sit on the deck with him after supper.

Ware saw them comfortably settled and then proceeded to search the boat for his partners; secret signs were given with no result, and finally he gave up the search.

When Ware returned to the two men, the old man had Mr. Cobb intensely interested in news of his old home, and the secretary fairly felt like improving the opportunity himself, but just then there arrived on the scene of action a fourth man, who was introduced to Mr. Cobb as Mr. Sykes.

An effort to interest Mr. Cobb on the part of these two men was successful, and with a few clever transfers the deed was done and Mr. Sykes walked off with the $10,000 bag.

"This my bag?" said Mr. Cobb, as they prepared to part for the night.

"It is not mine," replied the old man as he took up his own.

The four men gathered the next evening in their room, and Staley brought out the bag they had taken the night before, as yet unopened.

"You did that little job well, just as I was beginning to think you were not there," said Ware.

"Think we would forget that $10,000 in that little time?" said Staley, as he opened the bag.

"He has not raised the cry of 'stolen' yet."

"Strange, I expected to hear it on the boat this morning and see it in the papers this afternoon. We transformed ourselves and the bag, expecting something of the sort."

"What's the matter Staley? Can't you get the cash? You seem to be having a hard time of it."

"Well, now, I am. The old man had it well wrapped."

"We can afford to have patience," said one, taking a comfortable attitude.

"By George! He has got it done up in a hundred papers," said Staley, as he proceeded to take off one wrapper after another from the bundle he had finally managed to get out of the bag.

They thought each new one he took off must be the last, but there was always one more until the package left in Staley's hands was nothing more or less than a well worn pocketbook.

"It must be big bills," said one.

But the opened pocketbook contained only a scrap of paper on which they read:

"Dear Friends—I am not a fool, I always carry large sums in checks. Keep this bag, with my compliments—also the pocketbook.—George Cobb."

And the date was some ten years previous, which showed how well prepared Mr. Cobb had been for many years.

NONE LEFT TO CHLOROFORM.

"Shall we chloroform the old folks of the next generation?" asked the sage of Plunkville.

"If cigarettes an' tight lacin' keep their present holts on the respective sexes," retorted the Pohick philosopher, " there ain't goin to be no old folks in the next generation."—Pittsburg Post.

London has one licensed drinking place to every four hundred and forty-six inhabitants.

"Oh, my friends!" exclaimed the orator, " it makes me sad when I think of the days that are gone, when I look around and miss the old familiar faces I used to shake hands with."—Modes and Fabrics.

ABOUT ANTS

If you are troubled with ants, we can save you from despair. One application of our Ant Paste drives them quickly away. Sent prepaid, by express only, 40 cents.

KELLOGG'S ANT PASTE CO.
1010 E. NINTH ST., LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

James R. Townsend Francis M. Townsend
TOWNSEND BROS.
Solicitors of American and Foreign PATENTS
Copyrights, Trademarks and Labels Registered
Rooms 430-31-32-33 Bradbury Block Los Angeles Cal
When writing advertisers mention Cultivator.

HELP!
Settle Your Own Country
The Santa Fe
is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to
WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago
When writing advertisers mention Cultivator.

Sievert Oil Burners
Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.
1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

Cookery Recipes

Cooked and Poached Eggs.—Anything can be spoiled in the cooking and nothing more easily than eggs. As a matter of fact, eggs should never be boiled. When served in the shell, they should be well covered with boiling water, placed where the water will keep near the boiling point for five or six minutes.

Poached eggs should be dropped in boiling water, well salted, covered closely and set back to cook slowly.

To cream eggs, grease a hot spider over with butter, put in a half cup of cream, break in the eggs, cover closely and cook very slowly.

* * *

Poached Eggs on Rice Toast.—Boil half a pint of rice in three times its bulk of water, so that when done all the water will be absorbed; pack into a square tin and set away over night. The next morning cut into slices an inch thick, fry brown in melted butter, and serve with a poached egg on each slice.

* * *

Chocolate Tapioca Pudding.—Soak a half-cup of tapioca over night, drain, pour on boiling water enough to cook it till clear. Add three-quarters cup of sugar, a tiny shake of salt and two ounces of shaved chocolate. When the chocolate is well mixed with the tapioca, add the well-beaten whites of two eggs, stir in lightly—do not beat it, then add a half-teaspoon of vanilla extract, pour it in a dish and set aside to cool and serve with cream.

* * *

Sparkling Lemonade.—Roll and slice half a dozen lemons, put in a large pitcher and pour over one gallon of ice water; sweeten. Pour in glasses and stir in a little soda.

* * *

Shrub—Mash a gallon of ripe red currants, or other small fruits; pour over a pint of strong vinegar and a quart of cold water; let stand five hours, strain and add a pint of sugar to a pint of juice; let boil and skim; when cool bottle and seal. A few spoonfuls added to a glass of ice water forms a very cooling, palatable drink.

* * *

Gherkin or Cucumber Pickle—Take two hundred small cucumbers; cover with cold water, to which add a pint of salt. Let stand over night. In the morning drain off the water, measure and take as much vinegar as water, one ounce each of whole cloves and allspice, and a piece of alum the size of a walnut. Boil the vinegar and spices and pour boiling hot over the cucumbers. Cover with cabbage leaves. A few green peppers in the vinegar give an added flavor and are a great improvement.

Another process for the same pickle is the following: Soak the gherkins in a brine composed of six ounces of salt to a quart of water for twenty-four hours; drain and dry thoroughly with a cloth; pack in jars; pour over them vinegar, allowing for each quart of vinegar one ounce of salt, one-quarter ounce of black pepper corns, one ounce of ginger, two blades of mace and a dozen bay or parsley leaves. Let stand for two days, then put all in a preserving kettle and let simmer gently until well cooked. Replace in jars and seal.

A mind content both crown and kingdom is.—Robert Greene.

HOMELY HINTS.

Nothing takes the soreness from bruises and sprains as quickly as alcohol.

A teaspoonful of lime water will cure colic.

In case of a burn wet the injury and then apply flour or soda. It forms a paste and keeps out the air.

* * *

Filling Cracks in Floors.—To fill cracks in floors around the skirting board, or any other part of a room, neatly and permanently, soak newspapers thoroughly in a paste made of one pound of flour, three quarts of water and a teaspoonful of alum, boiled and blended. The mixture will be about as thick as putty and may be forced into the cracks with a knife. It will harden like papier mache.—The Housekeeper.

* * *

Cleaning Compound.—For cleaning highly polished furniture, take 1 tablespoon of raw linseed oil, 1 tablespoon turpentine, 1 tablespoon soap and 1 quart boiling water. Let boil ten minutes. Stir occasionally to mix thoroughly. This mixture can be used warm or cold but is more effective when warm. Apply with a soft flannel well wrung out to a small portion of surface to be cleaned at a time. When dirt has been well wiped off, polish with a fresh flannel.

REMARKABLE WORKS OF HUMAN LABOR.

Nineveh was fourteen miles long, eight miles wide, and forty-six miles round, with a wall one hundred feet high and thick enough for three chariots abreast. Babylon was fifty miles within the walls, which were seventy-five feet thick and one hundred feet high, with one hundred brazen gates. The temple of Diana, at Ephesus, was four hundred and twenty feet to the support of the roof. It was one hundred years in building. The largest of the pyramids was four hundred and eighty-one feet in height, and eight hundred and fifty-three feet on the sides. The base covers eleven acres. The stones are about sixty feet in length and the layers are two hundred and eight. It employed 320,000 men in building the labyrinth in Egypt, and it contains three hundred chambers and twelve halls. Thebes, in Egypt, presents ruins twenty-seven miles round, and contained 350,000 citizens and 400,000 slaves. The Temple of Delphos was so rich in donation that it was plundered of $50,000,000, and the Emperor Nero carried away from it two hundred statutes. The walls of Rome were thirteen miles around.

USES FOR PAPER BAGS.

In every household should be kept on hand a collection of the paper bags that are used by grocers for wrapping provisions, for they are most convenient for many purposes. A supply may be purchased, or those in which clean groceries, like sugar, eggs, etc., are purchased, may be smoothed out, and put away for future use, in a pasteboard box, where they will remain clean, and free from dust.

They are not only for wrapping various articles that must be sent or carried away from the house, but are actually useful for saving work, and keeping things clean. Slipped over the jars of preserved fruit, and jelly tumblers, when they are first filled, the contents will be kept perfectly dark; more than this, when one is ready to open a jar, it can be taken out of the bag, and will be found clean and free from dust. It is much less work to open a can that is clean, than to handle one that is covered with dust, and must be sponged off, before it can be touched with any comfort.

It requires a scouring to remove the dirt that gathers on the tops of jars each winter, if the new set of preserves are to have bright covers. All this work is avoided by the use of the bags.

A collection of thick paper bags of medium size should be kept for shielding the hand when a stove must be cleaned. Whether it is a coal or gas range, slip the right hand into a paper bag before grasping the cleaning cloth, and the condition of your nails will not require half an hour's work, after the stove is clean.

The whisk broom and all sorts of small brooms and brushes that are used in a kitchen, or for cleaning, about a house, will be kept free from dust, and last longer, if they are slipped into a paper bag when one is done using them. If a whisk broom is used for sprinkling clothes, it should be kept away from all dust; the flatirons too, should be placed in paper bags, and laid away in a dry place. It is trifles such as these that insure the perfection in laundry work that is no trifle. If one hasn't the usual bag made of ticking, clothespins can be kept put away in a stout paper bag, where they will be kept perfectly clean. Rubber bands will hold these bags in place and sometimes a mere twist is sufficient.

In country homes, where kerosene lamps are used, clean paper bags turned over the chimneys, after the lamps are trimmed each morning, keep the glass free from dust and steam, and one has a clear chimney when the lamp is lighted.

These are but a few of the uses to which these bags may be put, but in every home, there will be ways to use them which will become apparent, when the housewife discovers how really useful they are.—Vick's.

TO BE CONSISTENT.

It is reported that the Vegetarian society of Massachusetts has prohibited its members from marrying any woman who is not a grass widow.

CURED.

A woman who lived in Racine
Was fearful that she would get line,
So she drank lots of water,
As thin people ater,
And now she's as round as a bine.

Instructor (at night school)—What are the chief curses of American civilization?

Shaggy-Haired Pupil—'Bout the same as the English, only we use 'em more freely in our common talk than they do. You don't expect me to blurt 'em out, do you?—Chicago Tribune.

Music Teacher—Johnny is improving daily in his violin playing."

Johnny's Mother (gratified)—Is that so? We didn't know whether he was improving, or we were just getting more used to it."

I've allus noticed great success
Is mixed with troubles, more or less,
And it's the man who does the best
That gits more kicks than all the rest.
—James Whitcomb Riley.

"When you have leisure," said a caller to the city editor, "I would like to speak to you." "All right; come after I'm dead."

Why are two young ladies kissing each other an emblem of Christianity? Because they are doing unto each other as they would men should do unto them.

If you would be strong, conquer yourself.

Man should be ever better than he seems.

5 BEAUTIFUL SEA SHELLS FOR 10c
Mrs. Susan M. Mohr, Lealman, Florida
When writing advertisers mention Cultivator.

NEW
IDYLLWILD BUNGALOW
(Strawberry Valley)
A MILE HIGH—EASY OF ACCESS

Prices remain the same (moderate). No person with throat or lung troubles admitted.
Idyllwild is the place to go now. Mountain streams, wild and picturesque trails. Trained mountain ponies. Splendid orchestra, bowling, tennis. Tents and cottages for housekeeping.
Illustrated "Billy" booklet sent free. Gives terms and full information.

Address MR. R. A. LOWE, Manager
Idyllwild Mountain Resort Co., Idyllwild, Riverside Co., Cal.
When writing advertisers mention Cultivator.

WE GUARANTEE THE
White Lily Washing Machine
To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL.
White Lily Washer Co.
1539 Rockingham Rd. DAVENPORT, IOWA
When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.
When writing advertisers mention Cultivator.

THE CLEAT ON THE BOX.

Regarding the engraving which appeared in Mr. Shoemaker's advertisement last week, showing advantages of the patented cleat which he uses in all his shipments, there has been some little interest since that issue of the Cultivator so that we refer again to the cleat and the good which it may accomplish.

Mr. Shoemaker says that all his shipments go forward under this arrangement, which he has taken a patent upon and he offers this as an advantage to his patrons who may ship their oranges through him. Or sell to him, rather, for, as probably noted in his announcement in last week's Cultivator, he is now prepared to place next year's oranges on a purely cash basis. We understand Mr. Shoemaker has had wide experience in both the East and at the shipping end and understands oranges and the demands of the consuming public as few other dealers do. As he said, he has marketed over five hundred cars this year, with several months yet to clean up the season, in which he will ship several more and these shipments have been to the satisfaction of the producer.

But, more particularly, does he make his strong point on the use of the cleat which relieves the pressure of the tight pack without squeezing the life and shape out of the fruit in the press. In illustration of this point, Mr. Shoemaker has a number of photographs taken from boxes of fruit on arrival East, one box having been shipped under the patented cleat, the other the ordinary "tight pack," as usually sent out. The difference between the two, even in a small photograph, is most apparent, because of the much larger showing of decay in the box without the cleat. The fruit in each case was from the same packing house, shipped in the same car, had the same ventilation and general treatment from start to finish. As Mr. Shoemaker said, it is simply a case of more squeeze for the delicate fruit of the one box which started to rot first.

Regarding this plan of protecting the fruit from the extra pressure, Mr. Shoemaker can show any number of most complimentary commendations from fruit buyers in almost every fruit buying center of the country. One buyer in Baltimore, Md., says:

"We wish to write you and compliment you on the extra cleat that you use on your boxes; we have found that this holds the fruit very steady, and the fruit seems to fill the boxes to much better appearance."

A large buyer in Dayton writes: "There isn't any question but that the fruit will arrive in better condition and we know the fruit will sell much better."

From farther away Montreal the cleat is also favored, for the largest fruit buyer there writes: "Nothing but praise to offer—not only protects the fruit, but gives the box a better and larger appearance—the buyers here are delighted with it, as they are sure that no damage to the top row of oranges could be done—they always prefer buying your package."

Any fruit grower who may be interested in receiving the largest returns for his year's labor may get some valuable information by getting in touch with R. H. Shoemaker, who may be addressed at 522 Hellman Bldg., Los Angeles.

Los Angeles Markets.

Los Angeles, August 2, 1905.

Butter.

Butter stands at exactly the quotations of last week but with market very firm, owing to the fact that supplies are short of the demand and storage is drawn upon nearly every day to meet the trade requirements. Arrivals of Eastern are rather light.

B. of T. Creamery	57½
Valley Creamery, fancy	55@57½
Coast Creamery	47½@50
Fancy Dairy	45½@47½
Cooking, per lb	17@18

Cheese.

Cal. 3-lb. hand	15¼
Cal. Young America	14¼
California Anchor	13¼
Northern	12½@13
Eastern	16
Domestic Swiss	16½
Imported do	27½

Eggs.

Eggs are holding their own and still better, being stronger this week than last week, excepting as to seconds, which have increased so in quantity as to be slightly shaded in price.

Eggs, fresh ranch	27
Eastern and Storage	24
Seconds	19@20

Poultry.

Fryers, 2½ lbs	14
Broilers, under 2 lbs, per lb	14
Young Roosters, per lb	12
Hens, per lb	11½
Ducks, per lb	10
Turkeys, per lb	17@18
Geese	9@10

Live Stock.

The following quotations are f. o. b. Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	6.00
Prime Steers, cwt	4.00
Cows, cwt	3.00
Calves, cwt	4.75
Sheep, ewes, per head	3.50
Lambs, do	3.00
Wethers, per head	4.00

Potatoes.

Northern, per ctl	1.25
Locals, per ctl	75@1.10
Sweets, white, per cwt	2.00
Sweets, new yellow	3.50

Vegetables.

Onions, yellow, per cental	85@1.00
Onions, Silver Skins, clt	60@75
Beets, per 100 lbs	75
Cabbage, per sack	35@50
Parsnips, per sack	60@65
Bell Peppers	3@4
Cucumbers, per crate	20@30
String Beans	1½@2
Wax Beans	2@2½
Green Onions, doz bunches	20@25
Carrots, doz. bunches	25@30
Turnips, doz. bunches	25@35
Garlic	20
Peas, per lb	5@6
Rhubarb, per lb	04
Egg Plant	3½
Chili Peppers, green	2@3
Chili Peppers, dry	1[illegible]
Tomatoes, local	40@60
Asparagus	8½@10
Parsley, per doz bunches	30@40
Summer Squash, per bx 20 lbs	10@25
Green Corn, per sack	50@1.00
Butter Beans	3

Citrus Fruits.

Valencias	2.00@5.00
Lemons, standard	1.00@1.25
Lemons, fancy	2.00@2.50
Grapefruit	75@1.00
Grapefruit, seedless	1.25@2.00

Fresh Fruits.

Strawberries	4@5
Apricots, per bx	40@75
Peaches, per box	50@75
Figs, per box	50@75
Blackberries	5@6
Muskmelons, Ponies	75@1.25
Do, large crates	2.50@3.00
Watermelons, per lb	¾
Grapes, Thompson's Seedless	75@1.00
4-Tier Alexanders	1.25
Plums	60@1.25
Nectarines	65
Logan Berries	6@7

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	2.75@2.85
Small Whites	3.15@3.35
Black Eyes	2.50@2.75

Nuts

Almonds, paper shell	18@20
Almonds, soft shell	18@20
Peanuts, California	5@6
Peanuts, Eastern	7½@9
Walnuts, No. 1 softshells	14@15
Walnuts, hardshells	10@12

Honey.

Honey, comb, frames	10@15
White strained, per lb	5@5½
Amber	4@5
Beeswax	23@25

Hay.

Barley, new	$7@9
Alfalfa, local new	$10@11.50
Alfalfa, no thorn	10@11.50
Wheat, new	10.00@11.00
Tame Oat, new	$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.50@1.55
Barley	$1.00@1.02½
Corn	1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	$1.20
Feed Corn Meal	$1.60
Middlings	$1.35
Cracked Corn	$1.55
Corn	$1.50
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

The United States Honey Report of 1899 shows California produces 170 cars of honey; Texas 220 cars (marketed mostly at home); New York 160 cars; Missouri, 140 cars; Iowa, 120 cars; Kentucky, 180 cars; Illinois, 135 cars; Colorado, 81 cars; Arkansas, 65 cars.

San Francisco Markets.

San Francisco, August 2, 1905.

DAIRY.

Under slight demand the butter market is somewhat weaker and shows a decline of a couple of cents during the week. There are, however, light holdings of better grades which compels top quotations for fancy stock.

BUTTER—Per lb:

Creamery, fancy	23 @24
Creamery, good to choice	21@22
Dairy, choice	20
Store	17 @18

CHEESE—Per lb:

Cal. Creamery, mild new, ex.	11
Do, choice	9 @10
Young American	12 @13
Eastern, N. Y., Cream	17 @18

EGGS.

The demand for eggs continues vigorous, causing a satisfactory increase in quotations. Selected ranch are very scarce and readily command top quotations.

EGGS—Per doz:

Ranch, selected large	29 @30
Ranch, good to fancy	26 @28
Store	18 @22
Eastern extra	22 @23
Eastern firsts	19 @20
Eastern, seconds	17 @18

POULTRY.

POULTRY—Old Roosters, per doz., $4.50@5.00; young Roosters, $4.50@6; Fryers, $3@4.00; Broilers, $2@2.50; Hens, small, $4@5; large, $5.50@6; Live Turkeys, per lb., 18@20c; Spring Turkeys, 23@25c; Ducks, old, $3.50@4; young, $4@4.50; Geese, per pair, $1.50; Goslings, $1.50@1.75; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@1.75.

FRESH FRUITS.

Apples, per box, fancy, 85c@$1; common to choice, 40@75c; Crab Apples, per box, 65c@$1.

Apricots—Per box or crate, 65c@$1; bulk, per ton, $35@40.

Figs—Per box, $2@2.50.

Pears—Per box, Bartlett, No. 1, $1.50@1.75; common, 75c@$1.25; bulk, per ton, No. 1, $60; No. 2, $25@40; other varieties, per box, 50c@$1.

Peaches—Per box, 35@60c; carriers 60@80c; basket, 40@50c; open boxes, 40@75c; bulk, per ton, Freestones, $30@35; Clingstones, $50@60.

Plums and Prunes—Per small box or crate, 50@85c, as to variety; bulk, per ton, $10@15.

Nectarines—Per crate or box, 75c@$1.

Grapes—Per box or crate, Seedless, 65@85c; Fountainbleau and Sweetwater, 50@75c; Muscats, 65@75c; Blacks 65@75c.

Cantaloupes, per crate, River, $2@3; Watermelons, per doz., $1@3; Nutmeg Melons, 75c@$1.25.

Blackberries—Per chest, $1.50@3.

Raspberries—Per chest, $5@7.

Strawberries—Per chest, Longworths, $3.50@6; large varieties, $2@4.

Huckleberries—Per lb., 7@9c.

VEGETABLES.

VEGETABLES—Tomatoes, per box, 25@40c; Green Peppers, per box, Chile, 65c@$1; do, Bell, $1@1.50; Okra, per box, 75c@$1; Garden Beans, per lb., Green, 4@6c; do, Wax, 4@6c; Lima, 6c; Garden Peas, per lb., 3@4c; Cucumbers, per box, 35@50c; Pickles,

per box, 35@60; Egg Plant, per box, $1@1.50; Garlic, per lb., 3@4c; Green Corn, per sk, $1.50@2; per crate, $2@$3.

ONIONS—Per sk, Yellow, 85c@$1.10.

POTATOES—Per ctl.: River Burbanks, 40@85c; Salinas Burbanks, 85c@$1; Early Rose, 40@50c; Garnet Chile, 40@55c.

DRIED FRUITS.

The market on prunes seems to be in a most excited condition with offers to sell very light. Some holders of Santa Claras are demanding 3¾ cents basis. Offerings of peaches light, with market strong, ungraded sacks selling readily at 6½ and 7 cents. Apricots firmer.

Peaches—1905 crop—Crawford, fancy, 7½@7¾c; choice, 6½@7c; standard, 6¼@6½c; Muirs, fancy, 8¼@8½c; choice, 6¾@7½c; standard, 6½@6¾c.

Prunes, 1904 crop—Sack basis, f. o. b.: For boxed goods add ¼@½c; 40s to 50s, 4¼@4½c; 50s to 60s, 3¾c; 60s to 70s, 3¼c; 70s to 80s, 2¾c; 80s to 90s, 2½c; 90s to 100s, 2c; 100s to 120s 1¾c; 1905 crop, 3¼@3½ basis for Santa Clara four sizes; other sections ¼c less.

Apricots, 1905 crop—Royal, fancy, 7¾@8c; choice, 6¼@7c; standard, 5¾@6c; Moorpark, nominal.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded, 3½c.

HONEY AND BEESWAX.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

HOPS.

The price of desirable stock is nominal at 24@27½c per lb, according to quality, many producers demanding thirty cents.

LIVE STOCK.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@5½c; rough heavy, 4¼@4½c; common, 3½@4c.

HAY AND FEEDSTUFFS.

HAY—Per ton: Wheat, $9@13.50; Wheat and Oat, $8.50@12.50; Oat, $7.50@11.50; Barley, $7@9; Clover, $7@10; Alfalfa, $6@10; Stock, $5.50@7.50.

New crop Wheat, $9@13.50; Oat, $5.50@11; Wheat and Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $21.50@22.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@28.50.

FLOUR AND CEREALS.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.45@1.55; White Milling, good to choice, $1.57½@1.65.

BARLEY—Choice, No. 1, Feed, 97½@$1.02½; some fancy up to $1.03¾; off grades, 92½@95c; Shipping and Brewing, $1.05@1.10; Chevalier, nominal.

OATS—Good to choice, White nominal; Red, $1.20@1.35 for new crop; Black, nominal.

CORN—Good to choice, per ctl: California, new large Yellow, $1.45@1.47½; small do, $1.55@1.62½; White $1.37½@1.42½; Eastern Yellow, $1.40@1.45; White, $1.40@1.45; mixed, $1.40.

RYE—Good to choice, per ctl., nominal; new, $1.47½@1.50.

CITRUS MARKETS

In oranges there is but little to report in the way of a change from last week's conditions. The auction markets, if anything, are somewhat stronger on Valelncias, the prices being very satisfactory and somewhat higher than the prices received in Western markets. The West is taking practically everything enroute in the way of desirable sizes at full prices and the conditions are very favorable under well regulated shipments for a continuance of the satisfactory results now being received.

The lemon market is about the same as reported last week. The demand being rather light in the West, but shipments are not heavy and with good demand for California lemons in the eastern section prices have remained firm on both our stock and foreigns. There are two large cargoes still to sell and some small lots, and no further shipments of large amounts are expected from the other side, so that the situation is strong and very satisfactory.

NEW YORK.

The market at New York was in fair condition during the last week. Weather was cooler than for some time, enabling the handler to keep fruit in better condition. The general market was such, however, that any large offering would soon have upset conditions and caused a reducing of prices. Prices which prevailed generally from the store were from $5.00 to $5.50 for fancy Valencias; $4.50 to $4.75 for choice.

Grapefruit was in better demand than for some time, though large quantity of poor fruit held the market down from what it otherwise would have been.

Owing to cooler weather, lemons declined, showing practically a fifty cent lower quotation than for the week prior. They sold at $5.00 to $5.50 for choice 360s; $5.50 to $6.00 for extra fancys. Extra fancy 300s went as high as $6.35.

Monday's auction was lighter than ordinary, only five cars being offered. This tended to steady prices and Valencias held full top quotations. Other varieties not wanted as a rule. Most sales are made in small quantities, usually from ten to fifteen boxes. Lemons continue scarce and high, with sales very active from store. Valencias brought from $4.20 to $4.75 for the better grades and $3.00 to $4.00 for the lower grade stock, even many standards bringing as high as $3.50. One lot of California lemons sold at $4.75.

Two cars of Valencias were the total of the citrus sales of Wednesday. Market was somewhat stronger, extra fancy bringing as high as $5.55. Standards even commanded $4.45.

Lemons firmer.

BOSTON.

Only one car Valencias sold at Wednesday's sale. Market stronger. The $5.00 was the highest reached, Standards selling at about $4.00. No lemons offered.

CITRUS SHIPMENTS.

Total since November 1st, 28,283, of which 3547 were lemons.

BEARING THE HOP MARKET.

There seems to be a systematic effort on to lower the price of hops and unfortunately some growers have been led into accepting below any probable legitimate market which may prevail during the coming season. Many have combined and agreed not to sell one pound of hops before August 1st, under thirty cents per pound and it is claimed these have kept the faith and are still holding. Many others have sold at twenty-six and twenty-seven and some have become so scared at the efforts of the "bears," who are claiming that even fourteen and fifteen cents a pound will be reached before the season is over, that they are selling at almost any price.

Regarding the probabilities of this exceedingly low price, the Sacramento Union says: "If the United States grows 250,000 bales, England 600,000 cwts., and the Continent a full crop, we may see hops selling at 14 to 15 cents—not less. The chances that these things will all happen are about as one to fifty. The outlook at this time is reported as favorable for England. But that means very little.

Last year, predictions were made of great output in other producing sections and hops started at fifteen cents in June. From that day they rose to seventeen and nineteen cents by the middle of the month and by the middle of August to twenty-five cents.

"These facts go to show how futile it is for anyone, particularly a dealer who wants prices to go low so he can stock up or "cover," to try to make growers believe that a bumper crop and low prices are imminent.

The best informed man in the trade knows no more what will be the outcome during the next sixty days than does the novice."

REMOVAL.

While down on Santa Fe avenue a few days since, we found a state of confusion bordering on cyclone-destruction appearance in the factory of the Yucca Manufacturing Co. Inquiry soon developed the information that the big new two-story building which was pointed out to us a couple of blocks below is to be the future home of this old standby manufactory. So it is with pleasure that we announce the removal of this company to their new building, 2124 Willow st. This new building is a substantial, well built frame building, two stories in height, the upper one of which will be used for the drying of the yucca productions of the factory, while the lower will be for the machinery and the offices. The building heretofore occupied has been the property of the company, but was on leased ground, while now the company occupy their own property entire and feel a greater degree of comfort in its occupation. We are glad to see the prosperity manifested by this company, for it is one of the old-time friends of the orchardist of California, in that it was the manufacturer of one of the original appliances for tree protection.

We are informed by Mrs. Aiken, of the Bamboo Poultry Ranch, that the new hatch in the mammoth incubator is progressing finely, especially the section of it devoted to ostrich eggs. This is a new departure of this big incubator, for contract has been made with the Cawston Ostrich Farm to hatch the eggs of that institution. Mrs. Aiken also informed us that she has applied for a patent upon the idea of the 'dobe incubator which she hopes to secure, for she says she has been working for many years upon this idea.

IN WOMAN'S BREAST

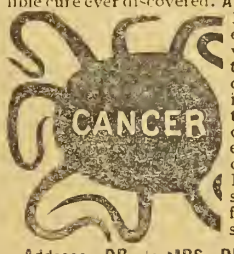
ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.



Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.

Please Send to Some One with Cancer

Back East Excursions

ROUND TRIP TICKETS TO

Chicago	$ 72 50
St. Louis	67 50
Memphis	67 50
New Orleans	67 50
Kansas City	60 00
Omaha	60 00
St. Paul	70 00
Minneapolis	70 00
Duluth	72 50
Fort Worth	60 00
New York	108 50
Boston	109 50
Philadelphia	107 50
Baltimore	107 00
Washington D. C.	107.00

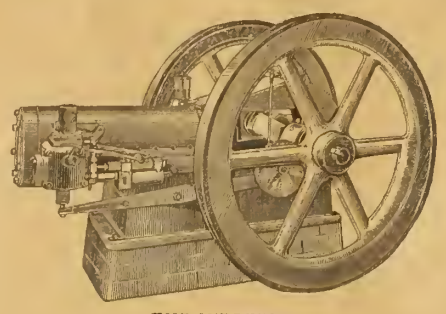
ON SALE
August 15 16-24-25.
September 7 8-9-10-11-16-17.
Good for 90 days.

DENVER AND RETURN, $55.00
ON SALE
August 10-11 12-30-31.
Good for 40 days.

These tickets are all honored on
The California Limited

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST
MOST SUCCESSFUL
ANY SIZE PLANT FROM 5 TO 500 H. P.
CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

NATIONAL WOOD PIPE CO.

WOOD PIPE
WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BOREO WOOD WATER PIPE
Made from California Redwood or Selected Puget Sound Yellow Fir
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY
PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

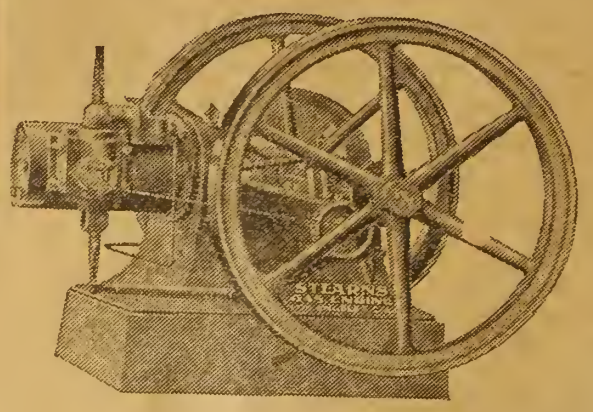
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

Simplicity HOME MANUFACTURE Economy



A first-class home-manufactured Gas Engine which is proving a winner. The mechanism on intake valves allows spring to lengthen and valve to work easier and take a larger charge when needed.

A new idea—another step in advance—is the sparker which operates only when necessary to explode the gas and gives same length of time in contact whether early or late spark.

WRITE FOR CATALOGUE AND INFORMATION

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.
THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

SHASTA ROUTE

is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

$35.00 ROUND TRIP

Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants

UNIVERSITY OF ILLINOIS

California Cultivator

LOS ANGELES SAN FRANCISCO

AUGUST 11, 1905

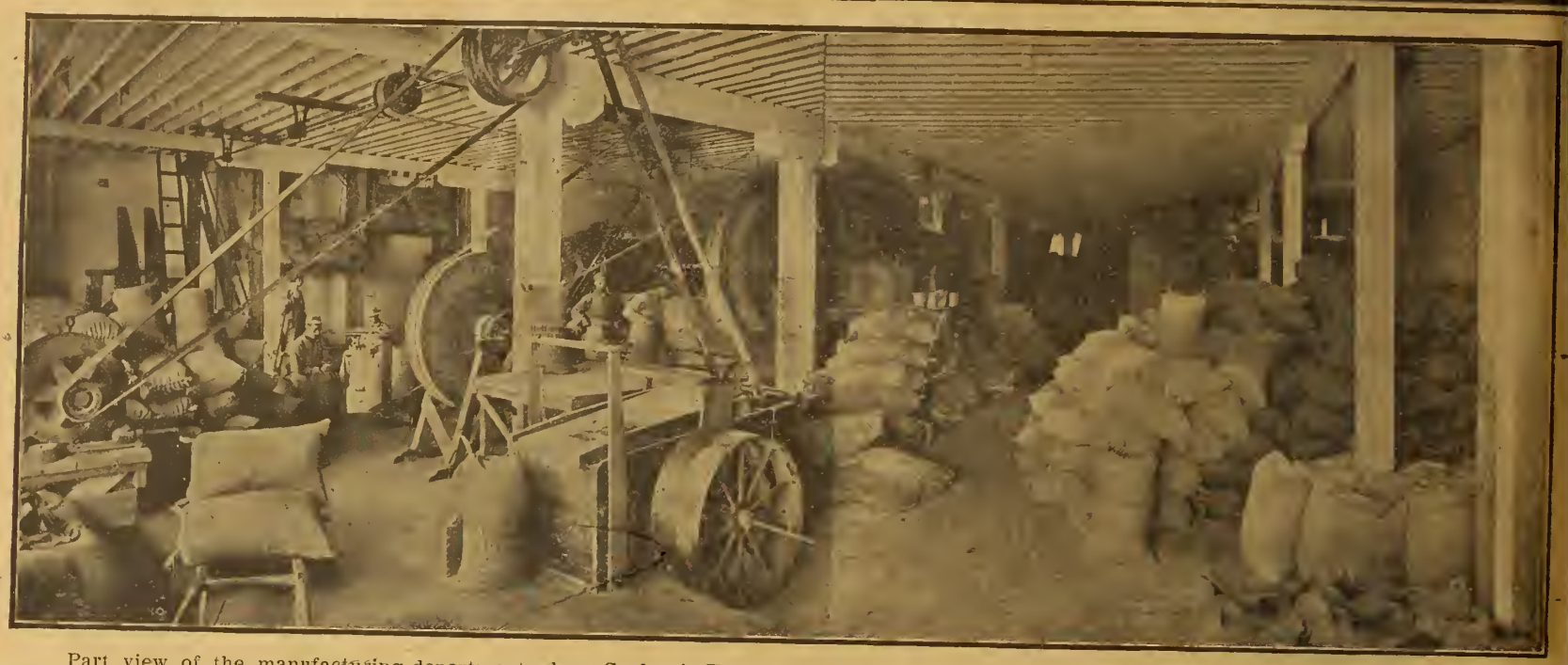
SCENES NEAR HERBEYLI, ASIATIC TURKEY

Shaking a Smyrna fig tree to cause such figs as have not fallen of their own accord to drop. In this section is found the home of the fig and near here Mr. Roeding studied Asiatic methods and secured the insect, Blastophaga grossorum, which has made fig culture successful in California.

The lower engraving shows the knocking off of Smyrna figs which have not fallen when at the proper stage of maturity, with poles of the giant reed, Arundo Donax.

CIRCULATION EXCEEDING 10,500

THE MAKING of a SUCCESSFUL POULTRY FEED



Part view of the manufacturing department where Coulson's Egg Food and Coulson's Chick Food are made. Notice solid stone floor. See the men at work bringing the different feeds and ingredients to the mixing machine. Thousands of sacks are handled daily. There is one pile containing over a thousand sacks of Armour's Meat Meal. Another pile of sacks of fine ground Bone Meal. Another pile of three thousand sacks of shorts. Another of fifteen hundred sacks of flour middlings. In another place you will notice a carload of Armour's Dried Blood. In another, eight hundred sacks of fine ground beef scraps. In another pile a carload of ground oats. and in another a stack of two cars of granulated corn meal, and back in the corner sixty thousand pounds of Minnesota Millet Seed, car lots of Cracked Rice, steel cut Oat Meal, different seeds, etc. There are tons of charred bone Charcoal, and barrels of powdered Willow Charcoal. and big stacks of many other ingredients.

OUR SPECIALTY—MAKING GOOD FEED.

John D. Rockefeller's specialty is oil, Andrew Carnegie's, steel; Senator Clark's mining. These men were and are specialists. They organized themselves to excel, just as we have organized ourselves to excel in the manufacture of the BEST FEED for POULTRY. It is the one thing we think of, dream of. and talk of. When a man's heart is set on his task, he does it better than the "don't care fellow."

We do not and will not employ any one who is not interested in their work, consequently we repeat to you that we make GOOD FEED FOR POULTRY, (none better but lots that are worse, we assure you.) Making GOOD FEED for poultry is our specialty. and we have got it down to perfection. We manufacture a feed that will make your hens lay, as you never dreamed of before. Not only is the feed good to make hens lay, but it helps the fowls and it also gives them richer blood and keeps them in healthier conditions.

Being specialists in the line of mixed poultry feed, we can give you the best feed at the lowest prices.

All fowls over two months old, pullets and laying hens should have one meal a day of Coulson's Egg Food as a warm mash. Feed it for one year and see what there is in it.

It takes several weeks to show any great gain in egg production on any change of feed. Many poultrymen have tried Coulson's Egg Food for a few days and given it up as a failure, while there are hundreds and even thousands of poultry keepers who have fed Coulson's Egg Food for over a year's time and have made the greatest of success. and who feed Coulson's Egg Food every day to their hens. and every day they get plenty of eggs.

TWO HUNDRED HORSE-POWER ENGINE.

That runs the machinery which grinds up the bones for making fine ground bone meal, and pulverizes the charred bones for making Bone Charcoal. Etc.

These ingredients are used in making Coulson's Egg Food (a mixed food for pullets and laying hens) and Coulson's Chick Food, which are mixed by machinery and mixed properly.

The healthiest looking fowls, with bright red combs, are those that are fed on Coulson's Egg Food.

TRY IT FOR ONE YEAR.

Experience, backed by the general law of average, proves that feeding any change of food for the first week or two doesn't bring results. A trial of a SACK OR TWO is a waste of money. If you GO IN. stay in, and it WILL PAY YOU. "Keeping everlastingly at it" is the ONLY WAY TO SUCCESS.

MR. POULTRYMAN, there is only one way to buy, and that is on record of WHAT YOU WANT. If you want to make a good record, buy good feed. Character is a man's record. So it is with feed. Buy on character. When you buy Coulson's poultry foods you buy on character, and get a standard article of feed that contains only the best and wholesome ingredients.

Rumsey, Cal., Dec. 15, 1904.

This is the first season I have used Coulson's Egg Food and I find it excellent for the purpose. Since feeding it I have had more than double the number of eggs that I ever have had before from the same number of hens.

Yours truly,

A. A. HENRY, Rumsey, Cal.

The Coulson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 6 LOS ANGELES, CAL., FRIDAY, AUGUST 11, 1905 Subscription $1 a Year

The Process of Fig Curing in California

Described by Geo. C. Roeding, Who Has Devoted Years to the Study of This Fruit, Both in This Country and in Europe

Varieties.—The only white fig which has been used for drying purposes on an extensive scale in California, is the White Adriatic. There is no denying the fact that this fig is of inferior flavor, although at the time of its introduction twenty years ago, it was predicted that it would equal the imported Smyrna fig in flavor. Years of experience have demonstrated that this fig makes a very inferior dried fruit and no matter how it is manipulated can it be made to compare with the imported fig. It is the only variety produced in quantities in California today, having any commercial importance. This fig has done so much harm to the fig industry of the State that dealers in the East scoffed at the idea of California ever producing a good fig and when the Calimyrna was introduced it was very difficult to convince the jobbers that this was a distinct fig and fully equal to the imported Smyrna fig. It is not within the province of this article to take up the relative merits of these two figs. The very fact that the Calimyrna and Smyrna have been conceded to be one and the same thing by experts, established its superiority.

In addition to the two varieties mentioned there is the Mission or California Black Fig, for which there has always been a limited demand. The only point against this fig is its color. The skin of this fig when properly dried, is soft and pliable, and the pulp, although having a sweet and pleasant flavor, lacks the distinct quality of being rich, therefore there is no possibility of its ever becoming an important factor in the fig business.

The fruit business of California has not been cradled in a bed of roses, but has been fostered by men who have been compelled to realize that the article offered for sale must be equal in flavor to a similar one, which has been imported for years from Europe. The fruits of Europe are held up as a criterion, and unless we can offer something equal or superior our claims for recognition are sure to be ignored.

* * *

Locality.—The acreage adapted to fig culture in California covers such a great area that it is not necessary to mention any particular locality or localities. Figs for drying purposes, and that is the manner in which they will be consumed, can be grown wherever the temperature does not go lower than 18 degrees Fahrenheit above zero in winter and where the summer temperature is from 80 to 110 degrees. Another important point is the necessity for a dry atmosphere, a condition which is found from San Diego to Shasta, fifty to sixty miles inland. The fig adapts itself to a great variety of soils, and such varieties as the Mission, White Endich (a pickling fig) and the Calimyrna, none of which are subject to souring, one of the objectionable features of the White Adriatic, can be grown where the water will stand close to the surface during a good part of the season. Such soils, however, are not to be recommended for fig culture.

The three varieties of drying figs will be considered in the order they have been referred to.

* * *

Drying Adriatics.—The White Adriatic commences to ripen its figs from August 10th to September 25th, and the season is even later than this in some years. The figs are never picked from the trees, but are gathered from the ground in tin buckets as they drop. If the figs are slow in falling, the trees are shaken severely and all mature figs as a rule then drop to the ground. The figs have reached their full stage of ripeness when they hang limp and seamed on the tree. After being gathered, they are dumped into picking boxes, holding from forty to fifty pounds of fruit. The work of gathering the fruit is in many cases done by boys, who are paid from $1 to $1.25 per day, or they gather by the box, receiving ten cents per forty pound box.

A small one-horse truck is used for carting the figs around and after enough are gathered, they are hauled to the drying ground. An old alfalfa field or one covered with wild grasses, something to keep down the dust, is best adapted for this purpose. In addition to the defects already mentioned, the White Adriatic is not uniform in color, and as the trade demands that a white fig must have a white appearance the figs are exposed to the fumes of sulphur from one to three hours. The time of exposure and the quantity of sulphur to be used is readily determined by the operator. If exposed too long, the figs will when dried taste of the sulphur fumes very strongly and the fruit will have a sickly white color, an indication that they have been in the bath too long a time. The figs are either sulphured in pickling or sweat boxes, which are half filled. Before putting them in the boxes they are sprinkled with water. Slats are placed between the boxes as they are stacked so as to permit the fumes of the sulphur to permeate freely through the fruit. Never take the figs out of the sulphur house late in the afternoon as they will invariably turn dark. Far better to put in a small quantity of sulphur and allow the figs to remain over night. The figs after being sulphured are spread on trays 2x3 ft., and are turned every other day until dry. An empty tray is placed on a full one and by a dexterous twist of the hands the figs are transferred to the empty tray.

The proper stage of desiccation is indicated by taking the figs between the fingers in the morning before the sun is up and if the fruit feels leathery and somewhat firm to the touch it is dry enough.

The time of exposure varies from three to four days, according to the weather, but time should not be taken into consideration, for whenever the fruit is dry the working between the fingers determines the fact. All beginners make the mistake of over drying. When this occurs, all the saccharine matter has been extracted from the fig and it consists of nothing but seeds and a hard, thick and tough skin, rendering it practically useless for commercial purposes.

The figs should not be dumped into sweat boxes (a sweat box is eight inches deep, two feet wide and three feet long) until they have become heated by the sun. The boxes should be filled up and the figs pressed down tightly, as this causes them to go through a sweat and equalizes the moisture throughout and also softens the skin. Before hauling to the packing house the fruit is washed in a cold brine, made by dissolving three ounces of salt to the gallon of water. They are then spread out on three by six foot trays with two inch cleats all around, to allow the moisture collected from washing to dry off. The washing removes all dirt which has collected during the course of drying and the floaters which arise to the top are taken out and used for hog feed. Then

(Continued on Page 138)

A TEN-YEAR-OLD CAPRI FIG TREE.

The wild fig which retains its hold upon the fruit through the entire winter, thus affording a home for the Blastophagus throughout the year. The framework shown was constructed to afford a support for covering to protect from cold. This was used as an extra precaution, for fruit on other trees not protected have never been injured by Fresno's coldest weather. The trees in the background are those of the edible or commercial Smyrna variety.

The Pineapple in Hawaii

A Former Owner of the California Cultivator, now a Planter near Honolulu, Writes Entertainingly of the Culture of the Pineapple

Many old time subscribers of the Cultivator will recall the names which formerly stood at the head of the Cultivator as its owners and editors were "Goodwin and Thomas." Several years ago Mr. Thomas severed his connection with the paper to join a colony going to the Hawaiian Islands, on the Island of Oahu, some twenty miles north of Honolulu, to engage in horticulture. The growing of pineapples proving most profitable that industry now predominates in the colony. When Mr. Thomas visited California a few months ago he promised an article, which promise he now fulfils and we trust it will be of interest not only to our subscribers in Hawaii, but to those in California. We are sure the older subscribers will be glad to hear again from Mr. Thomas.

* * *

Editor California Cultivator: Wahiawa is the settlement started in 1899 by half a dozen families from Los Angeles and vicinity, who came here just after the islands were annexed to the United States and bought a tract of land from the government. Previous to their occupancy the land had been leased as pasture, had never been cultivated, and was considered unfit for agricultural purposes by the old timers. This year there will be harvested over half a million pineapples from this land.

The first two years the Californians did a lot of costly experimenting with miscellaneous farm crops, vegetables, etc. Fortunately however, among the fruits planted soon after coming onto the land were several thousand pineapple plants of the Smooth Cayenne variety, and in about two years they bore a crop of magnificent fruit. Good judges and old timers said such fine pines had never been seen on the islands before—both as to size and quality. As there appeared to be a good market for such fruit, the question what to plant was at once settled and everybody began planting all the plants they could buy. The price of plants was about $25 a thousand—some paid more—and the supply on the islands limited. However, every one got enough to start them and now there are over a million pineapple plants growing at Wahiawa.

A great deal of the fruit is shipped fresh to the coast, but the bulk is sold to the cannery, located in the center of the tract. The cannery's pack this year will be about 20,000 cases of pineapple. We are in the midst of our summer harvest now, and every one is busy. There are two crops a year, from about June 15th to October 1st, and from December 1st to March 1st. The winter crop, however, is only about one-fourth as large as the summer.

After the fruit forms the plant sends out from one to three suckers and usually from one to half a dozen slips. One or two suckers are left on the plant and they produce fruit in twelve months and the balance are taken off and planted. The latter will mature fruit in from eighteen to twenty-four months. An average of three or four plants can be secured from each mature fruit. That is how plantations can be extended so rapidly.

The growers have not been in the business here long enough to have arrived at one opinion as to the number of plants to put on an acre. All plant in rows, two feet between each plant, but the distance between rows varies on different plantations from eight feet to two feet, and the number of plants on an acre from 2700 to 10,000. The wide planting will permit rattooning profitably for a longer time—possibly three or four rattoon crops—while one rattoon is all the close planting will stand, when the field will have to be plowed up and replanted. A year or two more will decide fully which will produce the greatest number of pounds of fruit in a given time.

(We take it that Mr. Thomas means by "rattooning" the allowing of growth of suckers about the parent stem year after year, after removal of fruit of former year, thus necessitating great spread over the ground and ultimately growing several pineapples at one time on each root. Or, more correctly, perhaps, each rattoon ultimately has a root system of its own, for, we believe, the offshoot comes from below the surface and sends out new rootlets.—Ed.)

Mr. Thomas' Pineapple Plantation on Oahu Island.

Many of the growers know all about growing oranges and other fruits in California (I guess I had better modify that, as, judging from the discussions I see in the Cultivator about orange growing, even the old-time Riverside growers have a great diversity of opinions as to which is the best way to handle an orange grove. As I was saying, several of the pineapple growers here spent years in orchard work in California, but their experience did not avail them much with pineapples, and the only pine plantations on the island were a few small ones owned by Chinese near Honolulu.

Among the prominent growers here is Byron O. Clark, formerly of Pasadena, who the old-time subscribers of the Cultivator will remember as a regular contributor to that paper. Another is A. W. Eames, who for many years carried on an extensive nursery business in West Los Angeles.

For the benefit of those who do not know how a pineapple grows (and I find there are many) I will say that they do not grow on trees nor under ground, as I have heard ordinarily intelligent people say they thought they did. They grow a single fruit on a plant, about two feet high, with a spread of spikes or leaves about the same. The Spanish Bayonet, so common along the foothills of Southern California, very much resembles a pineapple plant, and the fruit grows up from the center of the plant. It takes about four months from blossoming to ripening of the pine.

So far no serious pests have developed to interfere with their growing. That cannot be said of many other crops on these islands, however, and Prof. Koeble, Alexander Craw, and several others are kept busy. Strict laws have recently been passed to prevent the introduction of harmful insects not already here and when the Board of Agriculture secured the services of Mr. Craw as superintendent of the Division of Entomology they got the right man to enforce them.

A reservoir with a capacity of two and a half billion gallons is being built at Wahiawa, to store storm water for irrigation. H. Clay Kellogg, of Santa Ana, is the engineer in charge, and his brother, L. G. Kellogg, formerly of Los Angeles, is manager of the water company. The cost will be about $250,000.

Oriental labor is employed almost exclusively on the islands. There are 61,000 Japanese, 20,000 Chinese and several thousand Koreans and Porto Ricans. The total population of the islands is about 150,000. The Chinese are considered the most desirable and it was a serious blow to the planters when the exclusion law went into effect here. Some of the sugar plantations employ over 2000 laborers and pay them from $18 to $20 per month, with free house rent, fuel and medical attendance. Before annexation they paid $12 per month. That is not all. Uncle Sam has collected over four and a half million dollars customs receipts since annexation, which before, went into our own treasury. A pretty big price to pay for the privilege of being a territory of the United States, but if congress would only vote the money for the much needed fortifications and the improvement of Pearl Harbor, so much talked of since annexation, no one would complain.—W. B. Thomas. Wahiawa, Oahu, Ter. of Hawaii, July 18, 1905.

(Mr. Thomas refers only incidentally to irrigation, that is to the building of a storage reservoir, but from conversation with him when he was on the Coast last summer, we know that regular irrigation is necessary. The water has been supplied from a stream passing through the tract, but doubtless extensions of plantsing has created need for storing additional water.)

THE COUNTRY WHERE THE WIND BLOWS AND OTHERS.

When Kansas can get as much comfort from their cyclones as is indicated by the following clipped from the Kansas City Star it is time for Californians to brace up and be content—Content with a big C.

It is noted that there are no tornadoes or cyclones north of the 50th parallel. When you get up around Canada and Nova Scotia, there is not enough hot air to mix with the cold air to make a decent whirlwind in the road.

But even with the memory of Marquette and Snyder fresh in your mind, please don't jump at the superficial conclusion that it would be grand to live in a country where the wind never goes waltzing around in the form of a funnel. Just pause long enough, before packing your traps for Manitoba, to take a cursory inventory of the things you would miss in leaving Kansas or Missouri, and the price you would have to pay in purchasing immunity from cyclones and tornadoes.

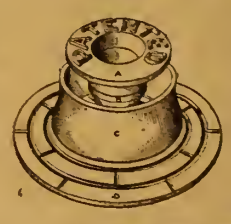
There are plenty of other things besides wind funnels that are not found north of the 50th parallel. No cantaloupes and watermelons, mind you, gladden the bleak hearts of Canadians; no green corn on the cob; no pawpaws; mighty few, if any, fresh cherry pies; not nearly enough spring lamb and new peas to go around; plenty of oats, we grant you, but as Doctor Johnson wisely observes, oats is a cereal eaten by men and women in Scotland, and by horses in England; wheat by the train load, to be sure, but isn't there a "right smart chance" of wheat in Kansas and Missouri?

With spring garden truck just coming on, don't get excited about the country north of the 50th parallel. Just rig up a cyclone cellar or a cave and stay with the melons and the green corn and the pawpaws and the other good things in God's country."

Lichen cannot adhere to trees that have been thoroughly washed with washing soda and soft soap.

The Star Oil Burner

Its Own Gas Maker



Not an experiment, but a practically tested and successful invention. No superior for safety, simplicity, economy and durability. Without bolts, screws or rivets. Free from soot and smoke.

STATE AND COUNTY RIGHTS FOR SALE

For terms on or territory apply at office of

WESTERN STAR MANUFACTURING CO.

148 W. FIFTH ST. - LOS ANGELES, CAL.

Call and See the Burner in Operation

When writing advertisers mention Cultivator.

Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash

T. W. JACKSON CO., 125 California Street - SAN FRANCISCO

When writing advertisers mention Cultivator.

Conducted by PROF. A. J. COOK, Claremont

BEEKEEPING FOR BEGINNERS.

There is something very interesting in the matter of quality in regard to the various kinds of food. The Ben Davis apple sells because of its fine appearance. All lovers of good apples acknowledge that it is very inferior in flavor, yet a friend said to me the other day, "Give me a Ben Davis of all apples." He was from Missouri, where the Ben Davis is much grown. A taste built up on Grime's Golden, Northern Spy and Spitzenburg could hardly understand his position. Those who have been brought up from their youth where maple syrup is produced have learned to appreciate the syrup made from first-run sap when all the apparatus is sweet and clean, especially if made rapidly and with the utmost painstaking. Such syrup is almost as white and clear as water and has a flavor that can hardly be described, it is so delicate and exquisite. I was speaking of this at the table of a friend only a day or two since, when he remarked that he did not like that kind of syrup. He preferred a darker kind and the pungency which goes with it. I thought of him as of the advocate of the Ben Davis apple, "There is no accounting for tastes."

We find similar experiences in matters of honey. While those of cultivated taste who are wonted to the very best that the culinary art can give us, much prefer, and praise only the lighter grades of honey, like that from basswood, clover, alfalfa, white and black sage, and the mesquite, yet there are others, and I have known not a few such, who prefer and always select the dark honey when they can get it. Such people prefer the flavor which is always present in the darker grades of boney. I have one friend, a college professor and long a colleague who always preferred buckwheat honey and laid in his supply in the late fall when he could get this kind. While I was glad to supply him this, I always laughed at him and expressed surprise at his taste. The golden rod honey and other honey from the autumn wild flowers in the East, though not quite as dark as that from the buckwheat, are highly colored and somewhat pungent in flavor. Here belongs the amber honey of our wild buckwheat of California. While most will prefer the white grades of honey, and others who will prefer honey of the darkest hue, like buckwheat, the wide-awake beekeeper will be on the sharpest lookout for customers, especially of these latter classes, for thus he may gain a market for all kinds of honey at good prices. If a person thinks that buckwheat honey is the best, or if he prefer the amber colored honeys, he will make no objection to paying the best market price for honeys of these grades. The friend I referred to above never objected to giving me a first-class price for buckwheat honey? Indeed, it would hardly be consistent to claim that a honey is first-class or of the best quality and yet request that a lower price be asked for it.

Another point of interest in this relation has to do with the grading of honey. The up-to-date beekeeper will see to it that his honey is kept by itself, for this will always bring the highest figure in the market. Later in the season, as the bees commence to gather from sources which give amber colored honey, the whiter grades will all be extracted that the amber honey may be kept by itself. In this way the grade of the lighter honey will not be lowered. In California the beekeeper cannot be too careful in extracting to keep his sage and alfalfa honey entirely separate from that from the wild buckwheat. It is even more important that the still darker buckwheat honey be kept by itself. It is hardly necessary to suggest that these darker grades of honey are just as suitable for wintering the bees as is any that is produced. Thus it behooves the beekeeper to extract the lighter honey and let the bees fill up the combs with the darker varieties in the later part of the season, for their own food during the winter.

With the beekeeper, as with those in any department of agriculture, it is important to grade carefully. There are few points which the beekeeper should study with more thoroughness than that of grading. If he is producing extracted honey he has only color to guide him in making up his grades. If, on the other hand, he is working for comb honey, then he must have a lookout not only for color, but for the number of uncapped cells, completeness of the sections and the general appearance of the same.

* * *

KINDS OF FRUIT TREES TO SET.

While visiting Mr. E. A. Gammon at his very profitable fruit farm on the Sacramento river, a few weeks since, I asked him what fruits he would set were he going to set a new orchard. His long and very successful experience makes him an authority in these matters. He replied that if cherries did well and there was little danger of the ground being flooded, he should give a prominent place to this fruit. In his section the cherries have been prolific bearers while the great demand for this fruit always insured a good price. A portion of Mr. Gammon's farm was flooded last winter. It was found that the cherry trees were largely destroyed if the water stood for any considerable time in the orchard. Next to cherries, Mr. Gammon would recommend the Bartlett pear. The pear is a very heavy producer, this fruit almost always brings a good price in the market and the trees have showed their ability to withstand the effect of flood to a remarkable degree. In reply to the question of danger from the ravages of blight, Mr. Gammon replied that he expected to be able to keep it down by free pruning and the liberal use of disinfectants. He added, with a twinkle of the eye that was suggestive, that many would not do this careful pruning and so he expected to keep his orchard and have less competition. Mr. Gammon also had found good money in peaches and apricots, but believed them much less profitable than the above varieties.

* * *

DISINFECTION IN PEAR BLIGHT.

Those who have studied closely the suggestions of Prof. Waite for protecting against pear blight will remember that he not only urges that the branches be pruned a good distance back of the injury but that the pruner should always carry with him a dilute solution of carbolic acid, and should sponge liberally his pruning instruments and the cut limbs as he works to eradicate the fungus from his orchard. I believe that the orchardist (and I may add the beekeeper as well, in the case of foul brood) cannot be too cautious in this work of disinfection. We must all remember that in all this work to eradicate bacterial diseases, we are fighting a very insidious foe, and we cannot be too cautious in all our work that we may stay the spread of the germs.

It has been my pleasure the last few days to be in company with one of the most distinguished and successful surgeons of the United States. He has a wonderful record. I asked him to what he most attributed his phenomenal success. He answered, "Caution in preventing infection." One seeing him at work in his own hospital can but appreciate and greatly admire his painstaking care to fence against the wee bacilli. It would be well if the beekeeper who has to fight foul brood or the orchardist who is contending against the plague of pear blight could spend a few days with this eminent surgeon that they might learn the nature of the foe with which they are contending and the extreme care requisite to success.

* * *

THE ARSENITES.

Mr. Gammon, whom I have referred to several times of late in the Cultivator, asked me at the time that I visited him, why it was that I, with others, continued to recommend Paris green as an insecticide. Like all our best orchardists, Mr. Gammon is a thorough believer in the use of the arsenites for the codling moth and against all leaf eating insects. If there were nothing better, he would certainly use Paris green. The Kedzie mixture is made by boiling together soda and white arsenic. Mr. Gammon says that this is not only much cheaper but much safer and much more easy of application. I would advise all our fruit growers who have occasion to use the arsenites to refer either to the Berkeley or Washington bulletins on the various arsenites and try this Kedzie mixture.

A friend of mine once told me that he was losing millions of dollars by not being able to have enough cattle to eat all the grass which then grew on the open prairies. Untold wealth is going to waste by not being able to have bees enough to gather the sweets from the flowers that bloom in season. A few colonies of bees will help any farmer to increase his income if he takes kindly to them.—Iowa Homestead.

We Can Save You More Money

Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building Shops and Yards: 860 North Main St.
Phones; Home 2367; Sunset Red 2811 Phones; Home 1088; Sunset Main 1088

When writing advertisers mention Cultivator.

The T. J. Rogers Fumigating Co.

FUMIGATORS and SPRAYERS

With years of practical experience and employing only competent men we are prepared to do first-class work at reasonable prices. Correspondence solicited. Best of references.

Address: South Pasadena, Cal.

Refer to Advertising Manager Cultivator.

Ask for Ames California Cups they are made of the Best California Oak Tanned Leather. Every Cup Guaranteed

MANUFACTURED BY A. T. AMES, GALT, CAL.

WALNUT TRADE IN HUNGARY.

According to report the walnut crop of southeastern Europe this year will be very weak, as spring frosts caused great damage in the chief places of production. Hungary will have to import and the prices "ab station" will be even higher than 40 crowns ($8.13) per 100 kilos (220.46 lbs.)—Report of F. Dyerchester, U. S. Consul, Hungary.

WALNUTS IN CHILE.

One variety of walnut is grown in Chile, the amount of a normal crop being 30,000 to 40,000 bags, gathered in February and March. The estimated crop for 1905 is 20,000 to 25,000 bags. Quality better than last year; 90 to 95 per cent of the crop is exported principally to the Argentine Republic, east coast of South America and the United States. Present price is $14 Chilean gold per 44.16 kilograms (96 pounds). Freight rates to New York and to Europe 45 to 50 shillings per ton.

VALENCIA RAISIN CROP

Improved methods in cultivating the Muscatel vine have resulted this season in the most abundant crop on record. Estimates are for a yield of 600,000 cwts., against 432,000 cwts. last season. Lower opening prices are generally forecasted and some of the most sanguine exporters are even expecting prices to enable them to successfully compete with California growers on American markets. On the other hand, stocks in foreign hands are reported almost cleared and those held by home speculators barely reach a total of 10,000 cwts. First shipments will be made early in August.—J. L. Byrne, U. S. Consul, Valencia, Spain.

DEMAND FOR INFORMATION.

The Horticultural Commission has continuous demand from outside sections for its literature which is regarded as of especial value in all fruit growing districts of the world. Regarding the extent of this demand we note the following regarding one day's calls, in the Union:

Yesterday in one mail Secretary Isaac received requests for reports to be forwarded to Palestine, the Cape of Good Hope and Assiniboine. Not before have there been calls for California official reports from such widely separated points at one and the same time.

The republic of Mexico, in its Department of Fomento, has a bureau of Parasitlogia which corresponds to our Department of Horticulture. News has been received that this deparlment has translated into Spanish the California Horticultural Commission's bulletin on the orange for circulation in Mexico. It has also ordered translated for publication Mr. Isaac's report on the orange maggot.

The strawberry bed is a good place for all the ashes that can be produced on the place. It drives off the insects and fertilizes the plants.

NEW HORTICULTURAL PUBLICATIONS.

The State Horticultural Commissioner has just issued two very valuable bulletins, one on the Russian thistle and the other a compilation of all the State laws and county ordinances bearing on horticulaure. The last session of the legislature passed a law making it part of the duties of the County Horticultural Commissioners to see that the Russian thistle and other noxious weeds were eradicated in their respective counties. As the Russian thistle is not prevalent in California, this law has caused a great deal of inquiry and very many weeds have been mistaken for it. It is for the purpose of supplying the necessary information in regard to this pest that the present publication has been issued, and the descriptions given there, together with the illustrations, are so full that there will be no excuse for anyone not recognizing this weed when he sees it. The bulletin on the county ordinances and State laws will also fill a long felt want on the part of the County Horticultural Commissioners, nurserymen, tree dealers and others who come under their operations. Nearly all the fruit counties of the State have ordinances supplementing the State laws, and these differ in many cases, making it difficult for shippers to know how to conduct themselves. The present bulletin gives all in a nut shell. Either or both of these publications can be had on applications to the State Commissioner of Horticulture, Sacramento.

THE SEVEN AGES OF A TREE.

A very practical way of classifying trees according to size is the following: Young trees which have not yet reached a height of three feet are seedlings. They are called seedlings in spite of the fact that any tree, of whatever age, if it grew from a seed, is properly called a seedling tree. Trees from three to ten feet in height are small saplings, and from ten feet in height until they reach a diameter of four inches they are large saplings. Small poles are from four to eight inches in diameter and large poles from eight to twelve inches in diameter. Trees from one to two feet through are standards, and finally, all trees over two feet in diameter are veterans. It is important to remember that all these diameters are measured at the height of a man's chest, about four feet six inches from the ground. In forestry this is, roughly speaking, the general custom.—Gifford Pinchot.

TRANSLATED INTO SPANISH.

The very comprehensive work on the Culture of Citrus Fruits in California, issued by the State Board of Horticulture, 1900, has been translated into the Spanish language and will be published by the Mexican government for the benefit of Mexican orange growers. We learn that the work of translation is now finished and the matter is in the hands of the printers.

BRAWLEY AS A MELON SECTION.

Editor Cultivator: I have frequently noticed in your columns reports of Coachella and Thermal canteloupe crops and, as the president of the Brawley Farming Co., and also of the Canteloupe Growers' Association, I feel it my duty to let readers of the Cultivator know that we can also raise a few canteloupes in this section.

This season the Farming Company raised about seventy-five acres of canteloupes and about one hundred acres were planted by individual growers, of which about forty acres were successful. This left us about one hundred and fifteen acres, off of which we shipped thirty carloads of canteloupes. We sent our first shipment on the 21st of May and the last on the 15th of July. We have reports from Kansas City, Denver, Pittsburg, Chicago and New York that our cars arrived in first class condition and sold for top prices, some cars bringing as high as $800. The quality of the fruit has also been highly commended.

Mr. L. M. Lyon, of New York, was our distributing agent and is enthusiastic over the quality and desired us to plant at least one thousand acres another year. Mr. Lyon will install his vacuum air blower at Brawley to cool the cars, which will reduce our icing charges and at the same time allow us to ship by regular freight instead of expedited freight, which will make a saving of fifty per cent in charges.

This season some of the growers have netted $100 per acre and with conditions and facilities we will have next season, coupled with our experience, we hope to double these proceeds.

The land about Brawley is peculiarly adapted to the growing of vegetables and canteloupes. It is a soft, sandy sediment loam, very rich, combined with abundant supply of water for irrigation, promises a great future for us. Land suitable for raising canteloupes together with water for irrigation, can be rented for $5 to $10 per acre. We have excellent soil, the best of climate and the best of water for growing canteloupes and all other garden products and all that we need is the people to come and farm on a small scale and help to raise that thousand acres of canteloupes.—Peter P. Horley, Brawley.

A large orchard poorly planted and poorly tended will not produce as good results as fewer trees well cultivated.

NOTICE OF MEETING.

A meeting of the members of the Los Angeles County Apple Growers' Association will be held in room A, at the court house in Los Angeles, on Saturday, August 19th, at 10 a. m.

FRED'K MASKEW, Sec'y.

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.
When writing advertisers mention Cultivator.

The Green-Marshall Co.
Manufacturers and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

Wanted--Nursery Canvassers
A few good nursery canvassers for choice territory. Outfit furnished free; commission advanced weekly; expenses paid. Good opening for proper parties. Write at once for an agency. Give references when applying. Address
OREGON NURSERY CO., Salem, Ore.
When writing advertisers mention Cultivator.

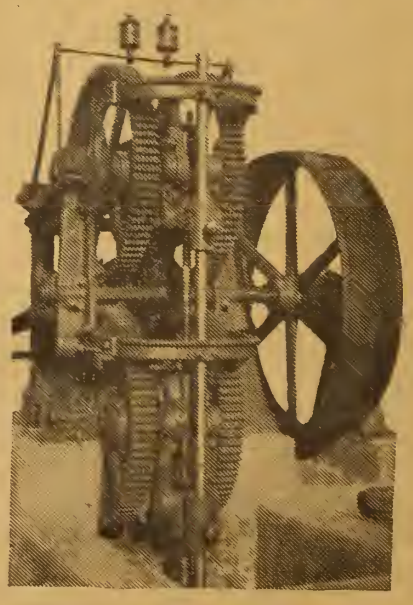
SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND EVERY TEST

PRICES – 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.
When writing advertisers mention Cultivator.

The New Pomona Pump



48 Inches Flowing Over Weir.
This Tells the Story.
Write for our new catalogue.
Pomona Manufacturing Co., Manufacturers
POMONA, CAL.
When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

ECONOMY IN MAINTAINING THE FERTILITY.

The term fertile is defined as "able to produce abundantly, prolific, productive." "The principal elements of productivity are, a full supply of available plant food, a suitable and continuous supply of moisture, and good physical conditions of the soil. Land may contain large quantities of potential nitrogen, potash and phosphoric acid and other plant food, and yet be unfruitful—infertile."

The application of artificial fertility in the form of stable manure or commercial fertilizers is expensive; it will therefore be economy to first utilize the natural resources of the soil before going to the expense of applying artificial fertilizers, and even where it becomes necessary to increase the fertility of the soil by the application of fertilizers it is still important to utilize to the fullest extent the natural plant food supply of the soil. This may be done by furnishing a suitable and continuous supply of moisture, deep and thorough tillage and a physical condition of the soil favorable for the increase of the quantity of available plant food.

It is my belief that the application of a fertilizer that greatly improves the physical condition of the soil is more beneficial because of its physical effect upon the soil than from the actual elements of plant food contained in the fertilizer. In other words the improved physical condition of the soil due to the effects of the fertilizer may result in changing to available form a larger amount of the natural soil elements than those contained in the applied fertilizer. Stable manure is valuable for improving physical condition of the soil, but as a prominent orchardist remarked in the hearing of the writer, "stable manure is good, but the improved physical conditions do not last and the continued yearly application of either stable manure or commercial fertilizer is expensive."

Another fact that must be considered is that the supply of stable manure in the principal citrus fruit districts is limited. At the present time the general attention of the citrus fruit growers has been turned to the growing of peas and other legumes in the orchard as a green manuring crop. There are several advantages to be gained by this method of increasing the fertility of the orchard soil. It is a well known fact that clover has been used in the eastern States for many years as a means of restoring the fertility of worn out lands and is today one of the great factors in crop rotation for maintaining a high standard of soil productiveness. Government reports say that in Germany the number of pounds per acre of nitrogen added to the soil by legumes is estimated at 200 pounds per acre, and in the United States the average from sixteen States is 122 pounds per acre. When it is remembered that a high grade of nitrate of soda contains but about 15 per cent of nitrogen, while much that is in market contains considerably less, it will be seen that a crop of legumes is equal to from 800 to 1000 pounds of nitrate of soda per acre, which, at the present prices, is equal to from $20 to $25. In the use of the legumes as a green manuring crop for the orchard, the gain in nitrogen is only one of a number of advantages to be gained. The potash, phosphate and other mineral elements of the soil that are assimilated by the root and vine of the pea are by the decay of the plant rendered immediately available for the use of the orange tree.

The roots of the legumes, which penetrate two or three feet into the soil, after decay, open passages down into the subsoil which admit both air and water. The vegetable matter which the green soiling crop gives to the soil, by greatly improving its physical condition, renders available very much larger amount of the natural elements of plant food originally contained in the soil. And further, it is believed that the shading of the ground during the fall and fore part of the winter will retard the maturing of the navel orange crop and enable the tree to hold its crop of oranges with less waste from dropping than when the soil is bare and exposed to the warmth of the sun.

So much has already been said as to amount of seed, time of planting of the crop of peas, the inoculating of the soil with the nitro-culture bacteria, that it seems unnecessary to enter into the details, but it might be well to emphasize two points; first, that on some soils a little fertilizer to start the peas is beneficial; second, government reports say "experiments by Gain and others have shown that peas, beans, and lupins, watered and unwatered, the number of nodules in moist soil exceed those in dry from ten to twenty times." and experiments in this country have demonstrated that the humidity of soil greatly favors nodule formation and of course an increase in the storage of nitrogen. From this it is evident that a lack of rain in the fall and early winter would necessitate liberal irrigation to insure the best results in the increase of nitrogen.

The nitrogen-fixing bacteria belongs to the vegetable kingdom and is of the lower order of plant life, having the power to absorb free nitrogen from the soil air. Air is, therefore, as important to this plant as moisture. A porous soil is favorable for nitrogen storing, and for this reason stable manure is sometimes applied to the soil about the first of August, prior to putting in the crop of peas.

To secure the best results in the storage of nitrogen the bacteria must have a liberal supply of moisture and air in the soil.

OPPORTUNITY FOR THE LEMON GROWER.

In speaking of the opportunity now before the California lemon grower to force the foreign lemon out of the market and capture this country with California grown lemons a local exchange says:

It is unquestionably true that New York consumers would be better satisfied with California lemons than they are with any grown in foreign countries. There would be a reduced element of loss which would be of more importance than anything else. Conditions are so different in New York from what they are elsewhere in the United States that anything which will improve the quality of goods offered here will greatly improve the market. An improved market is essential to secure the best trade and the best profits. With the coming of the California fruit all this would be changed. The market would be better. The fruit would be better and probably two lemons would be sold where only one is wanted now.

The market is unlimited. There are 4,000,000 of people in and about New York City, with fully twice that number within thirty miles. This alone constitutes no mean market. It would be worth while for California growers to secure this market alone. They could ship all the lemons they could produce to New York and rest assured that they would sell at a good price.

Speaking in a general way the New Yorker doesn't care particularly what he pays for an article he wants provided it is up to his standard, but he does object to being fooled with something that doesn't appeal to him, something that he could buy better elsewhere. Further, he has a certain degree of pride in his city and he feels that it ought to have the best of everything. If the best comes to New York he will buy it and pay well. Therefore, if California growers will raise good lemons and send them to New York they can rest assured of a good market nad can be equally certain that they will sell at good price.

More and more each season California lemons are becoming better known. More and more they are coming to be understood as the best possible lemon procurable. More and more customers are being obtained for them. Gradually the foreign product is being pushed out. Where formerly importations ran up to 2,500,000 boxes, they scarcely go over 1,500,000 now. Where formerly there was nothing obtainable excepting foreign fruit the market now has the better California product and is taking to it even more kindly than has been expected.

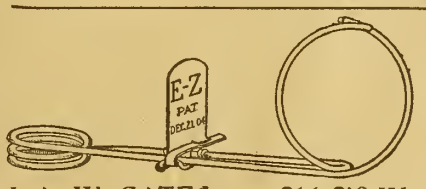
It would be well if something were done to urge the sale of these domestic produced lemons. It would be well if growers or packers or jobbers would advertiso their excellencies. This was done once by one of the fruit companies, but in late years nothing has been done in this market to add to the knowledge already possessed. It was shown at that time by analysis that the California contains more of the distinctive lemon ingredients and elements than the foreign lemon, but the supply was so small at that time that few could obtain them, consequently that excellent bit of advertising didn't amount to much. It was, however, an indication of what should have been done ever since. It ought to be the regular thing to undertake work of this sort and show how much better in every way the California lemon is.

Lime Your Lands
LIME, $2 50 PER TON
Time to buy. For particulars write
H. B. MATTHEWS, Riverside, Cal.
Home Phone 1066, Riverside

20,000 Orange and Lemon TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

When writing advertisers mention Cultivator.

Peas 500,000 Pounds Two Hundred and Fifty Tons **Peas**
Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Cul ure Bacteria at agent's price. Write for prices and particulars.
Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.
When writing advertisers mention Cultivator.



Ask Your Dealer for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

"Oh, we can fit you, all right, all right!
A HOEGEE TENT FOR THE BEACH
Send for a Catalogue
HOEGEE'S
Irrigating Hose
Khaki Clothing
Stack Covers
Fruit Picking Bags
The Wm. H. Hoegee Co.
Incorporated
Phones—Exchanges 87 138-142 So. Main St., Los Angeles
New Gun Catalogue now in printer's hands
When writing advertisers mention Cultivator.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

REVIVAL IN CACTI.

Every decade or two we have what critics are pleased to term a "cactus craze." Ten years have now passed since the last local revival in this most interesting family and there are signs of a slow return of cacti to public favor. We still have, in many parts, fine collections which have been well kept, but with interest at low ebb some of these may be purchased at most sacrificial prices. With the return of cacti to general favor these fine private collections will rapidly increase in value. If you wish to be "in" on the next high tide of the cactus craze, begin collecting at once.

No other natural order furnishes us, at one and the same time, with so many curious forms and lovely flowers as does Cactaceae. The plants range in size from a little larger than a pea to more than sixty feet in height, with so many curious forms as to completely baffle description of many of them. Of course the size of the flowers have no such range, but several are more than a foot long and of the same diameter across the mouth, when in full bloom. No family of plants can surpass the exquisite shades of color to be found in cacti, ranging from white to crimson, all with a beautiful satiny finish. Collect cacti.

THE CALIFORNIA FAN PALM.
(Washington filifera.)

Beginning a little more than one hundred miles eastward from Los Angeles, along the line of the Southern Pacific to Yuma, and extending to the head of the Gulf of California, lies what is known as the Colorado desert, or such part of it as lies within the State of California. Not long ago, a few centuries at most, this was a vast inland sea. Whether it was upon its present level or has been raised in places, no one may say, but parts or it are now nearly four hundred feet below sea level and the water marks on the rocks, where the lapping of the waves have worn them away, are as distinct as though the waters receded but yesterday and apparently are on a perfectly level line. In the canons which extends like giant arms from the desert body, stands all that exists of the only palm native to the Pacific Coast States, Washingtonia filifera, or as it is commonly known, the California Fan palm. All told, they now number but a few hundreds, though it is certain that when they were fanned by ocean breezes they were almost innumerable, perhaps the beach was thickly planted with them, as is the case in many places with the cocoanut palm. One circumstance that bends the curious investigator to this opinion is finding them at present only where the roots may reach water or very damp soil. A majority of persons, speaking of this palm, will be heard to exclaim, "Oh, they will grow anywhere; they are natives of the desert;" not knowing that when one "on the desert" blows over, the hole beneath immediately fills with a brackish brine, too salty by far for drinking purposes; yet such is the case with all those growing along the edge of and upon the desert floor. In the canons they all stand in or near pools or running streams, except perhaps for a short period in midsummer when the canons are dry. Here, where they are comparatively free from the desert storms, their bare black trunks may be found from forty to eighty feet in height. Unlike those in cultivation, no part of the trunk is covered with the hanging dead leaves, occasional fires keeping them burned off clean as far up as the green leaves.

Our species is also found in Arizona just across the Colorado river, but their numbers are few. Mexico (Sonora and Lower California) gives us two other closely allied species, W. Sonorae and W. robusta, the latter being by far the most handsome. Though all Washingtonias are doubtless diminishing in their native haunts, so far as numbers are concerned, this need give no cause for alarm, by reason of the many thousands found in cultivation which alone produce enough seeds to supply the world's demands.

A Good Cactus Collection.

THE OPIUM POPPY.

The best ground for the culture of the poppy (Papaver comniferum), according to information received from Smyrna, is a light soil on a hillside having a rocky subsoil. This produces the light-colored opium, which is most esteemed. A low saudy soil of a dark color will produce a dark quality of opium, which is inferior to the former. To produce opium of the finest quality it is essential that the ground should be rich and dry.

After the first rains in September the ground is plowed several times at intervals, and well manured. Sowing usually commences in October. The seeds are mixed with two parts of earth, and sown broadcast. Many farmers consider it advantageous to draw a rake over the surface after sowing, in order to cover the seeds. Sowing at this season produces a better crop than at a later period, as the plant becomes stronger, and is not so likely to be injured by the cold. It has, moreover, this advantage, that, should the crop be destroyed, seeds can be sown again during the months of December or January.

As soon as the plants attain a growth of two inches they are thinned out, and a space of several inches left between them. The ground is then hoed, in order to lighten the soil as much as possible, and give air to the roots. This process is sometimes repeated while the plant is yet young.

The business of collecting the opium commences after the flowering of the poppy, which usually takes place about the 1st of May. Should rainy weather prevail, however, the capsules will not easily ripen, and the collecting must be deferred till the following month. The harvest continues through June, July, and to the middle of August. The change of the color of the capsule from green to gray indicates that it is ripe for the process required. This generally occurs from five to ten days after the withering of the flower, according to the state of the atmosphere. A small incision is then made on the side of the capsule as a test, and from this a milky substance is shortly seen to exude. If this falls to the ground the plant is allowed more time to mature; but if it trickles slowly down the side and adheres, there is evidence of full maturity. The operation for obtaining the opium now really begins. Curved incisions are made with a peculiar knife all around the capsule through the epidermis, or outer skin, and after a few hours the opium which has exuded on the surface is collected. One company of men are employed in making incisions upon such plants are they judge to be in a fit condition for the operation, and these workmen are followed, a few hours later, by others who collect the soft juice by scraping it off, and placing it on a tin plate held in the hand. When a sufficient quantity has been collected, it is transferred to a large leaf, in which it is enveloped. This leaf belongs to a plant closely resembling our domestic lettuce, and grows wild throughout the interior. Only the first quality is treated in this way. The inferior article is removed from the plate into a shallow wooden tub, in which it is left a few days to dry, and then rolled into balls of various sizes, and enveloped in leaves in the same manner as that of the first quality. These balls, varying in weight from one to three pounds, are placed in high narrow baskets, each being lined with fine linen made into a bag. Between the layers, and even between the balls, a quantity of an extremely fine husk of a certain grass, which everywhere abounds, is strewed to prevent the whole from becoming one mass. Each layer is firmly pressed down, and when the bag lining the basket is full, it is strongly tied, and sealed with the seal of the owner. In this state it is brought on mules or camels to the Smyrna market for sale.

The purchase is concluded previous to any examination of the article, the understanding always being that it must be of the first quality. The baskets are conveyed to the warehouse of the purchaser and opened only by the public examiners, who examine each piece, cutting open any that appear doubtful, and setting the second quality aside to be returned to the seller. These examiners, by long practice, become very expert in their business, and can tell at a glance, not only the quality, but even the district in which a certain parcel has been collected.

The work of collecting opium is performed both by men and women. The average cost of producing a chequi of opium of one and two-third pounds, not including cost of plowing or land rent, may be estimated at forty piasters, or about $1.60.

It may be remarked that the poppy is an exceedingly tender plant, the growth of which is attended with many dangers before arriving at maturity. A slight frost, continued rains, or great heat may ruin the crop of a whole district in a very short time. To be brief, the requisites for the proper development of the poppy are these: A rich, dry soil, proper culture, slight rains during the early part of its growth, and moderate heat at the time of flowering, to bring the capsules to maturity.

SAVING VEGETABLE SEED.

To save or clean pulpy seeds, such as cucumber, tomatoes, etc., I scrape out the inside pulp into a dish, set it in a moderately warm place for 48 hours, or till it sours, then beat it with a stick as I would an egg. Then fill the dish with water, drain off and repeat until the seed is bright and clean. Spread to dry, then pack up and label with date.—O. J. Farmer.

CAULIFLOWER SEEDS
$1.50 PER OUNCE
DIRECT FROM GROWER IN DENMARK
AMERICAN ADDRESS KARL KOLLE, 1234 N. 50 Av. CHICAGO
When writing advertisers mention Cultivator.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.
When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

AGRICULTURAL KNOWLEDGE

There is a theoretical and practical knowledge of agriculture, says Drovers Journal. The former is obtained from books and the latter from personal cultivation of the soil. If, without experience, one undertakes to operate a farm he will soon discover that there are a multitude of facts to learn before he can achieve the best results. Conducting a farm successfully is not only a business, but a science that has to be mastered as much as medicine or mechanics. The farmer is engaged in a business that needs comprehensive knowledge of the laws of plant and animal life, as well as the composition of soils, if the greatest results would be attained. Farming involves so many uncertainties that skill and experienced judgment are in constant demand. When the city farmer engages in agriculture late in life without experience, he will soon learn that his operations are a mass of mistakes, and he will be compelled to learn from those whose knowledge and experience have blazed the pathway to success. The new beginner will find experience forthcoming and money outgoing until he has learned the facts necessary to follow agriculture successfully.

One may obtain a theoretical knowledge of banking and telegraphy from books, but could not send a dispatch or conduct a bank without apprentice experience. One must have a love and aptitude for farming if he would succeed. There are so many facts to learn in any branch of agriculture that time is necessary to acquire experience. It is not the ability to raise one bumper crop, but to so manage agricultural land that good crops can be produced every season. This requires a knowledge of the composition of soils and the most practical and economical method of maintaining and increasing land fertility. If the experienced achieve only average success what can the novice expect in agricultural operations?

A successful farmer must know the fundamental rudiments of animal and plant life. The more extended his knowledge in these laws the greater the prospect of success. He need not be a college graduate, but he must have mastered the laws governing plant and animal life and the particular adaptation of plants to the soil which he cultivates. This knowledge, combined with the ability to do this work to the best advantage, will command success. A little knowledge is a dangerous attribute, especially when it does not take in the whole problem of any branch of agriculture. What is needed on the farms today are competent and experienced men who have mastered the principles of agriculture at either experiment stations or practical field and livestock operations.

NATIONAL IRRIGATION CONGRESS

From the official call of the executive committee of the National Irrigation Association, of which Gov. Geo. C. Pardee is president, and C. B. Booth, of Los Angeles, is chairman, we note the following:

The Thirteenth National Irrigation Congress is called to meet in Portland, Oregon, August 21st to 24th, inclusive, 1905, convening in the Auditorium, Lewis and Clark Exposition grounds.

All who are interested in developing the great natural resources of the country, extending the habitable area, and increasing the products of the land, insuring greater stability and more prosperous conditions, making occupation upon the land more attractive, the extension of the internal trade and commerce, and the dissemination of a wider knowledge of the great economic movement which has for its ultimate object the upbuilding of an empire within the borders of a great nation, are invited to attend the Congress.

The work of the Congress has been so greatly enlarged through the increased interest in matters pertaining to irrigation, that the executive committee has decided to systematize the work of the next Congress according to Articles 3 and 5 of our constitution; consequently the work of the 13th Congress has been divided into five sections.

Each section will be conducted by a chairman, who will be recognized as an eminent authority in his line, which insures a thorough exposition of the respective subjects through the presentation of papers, addresses and discussion by the most eminent men interested in forestry, irrigation, climatology and their correlated subjects.

In the various sections, information will be dispensed regarding the increasing of production by irrigation in the humid as well as in the arid sections; forestry problems in New England, and along the Appalachian Chain, as well as along the Rocky and Sierra Mountains; engineering applied to protect from the devastation by floods; drainage of the submerged areas; directing and conducting the water to its most beneficial use; climatology with special reference to the srevice of the Weather Bureau throughout the United States; and colonization of new areas developed through irrigation.

THE VERDICT IN THE MITCHELL CASE.

Presumably the age of John H. Mitchell, senator of the United States, is responsible for the generous recommendation of mercy which accompanied the jury's verdict of guilty in his case. Certainly neither his public position nor his dramatic protestation of innocence, coupled with expressions of virtuous indignation against alleged political enemies maliciously seeking his undoing, at the time the indictment was returned against him, warranted the suggestion.

Senator Mitchell is convicted of complicity in the startling land frauds which, as readers are aware, had for their object the alienation of millions of acres of the public domain by conspiring thieves and boodlers. The technical charge against Mitchell was that of "practicing before the departments of the United States government for compensation while occupying the office of United States senator." What he has been guilty of, according to the testimony of his own partner, who was a very reluctant witness, is the expediting, for pay, of land office cases known to him to be fraudulent and corrupt in origin and character.

The defense, in spite of previous assurances of the defendant's resolute desire to secure prompt vindication and prove his innocence, was wholly technical. Neither the demurrer to the indictment nor the argument and objections of his attorneys at the trial had any relation to the merits of the case. The jury, if we may judge by the reports of the proceedings and the evidence, simply could not return any other verdict.

The resulting spectacle—another federal senator in the pillory, convicted of crime inspired by greed—is not a pleasant one, but it is very much pleasanter than the knowledge that "respectable" rascals evade justice and escape punishment. Let the wholesome work go on. The Secretary of the Interior said in his last report: "The leading spirits in the fraudulent transactions" in question "are mostly men who have occupied positions of influence and high standing, both socially and politically, and many of them are men of large wealth." It has required and will require much courage and determination to overcome the obstacles placed by these conspirators and criminals in the way of justice. Such courage and fearlessness the people expect of the departments concerned. —Chicago Record Herald.

Milk is just about all water, but the only honest way to get it is through the cow. The only way cows have of getting water is the way you and I furnish them. If we fail of doing our part, the cows certainly will draw the lines on us when it comes to milking time.

Don't think that because fruit is off the tree that it needs no more water or cultivation this year.

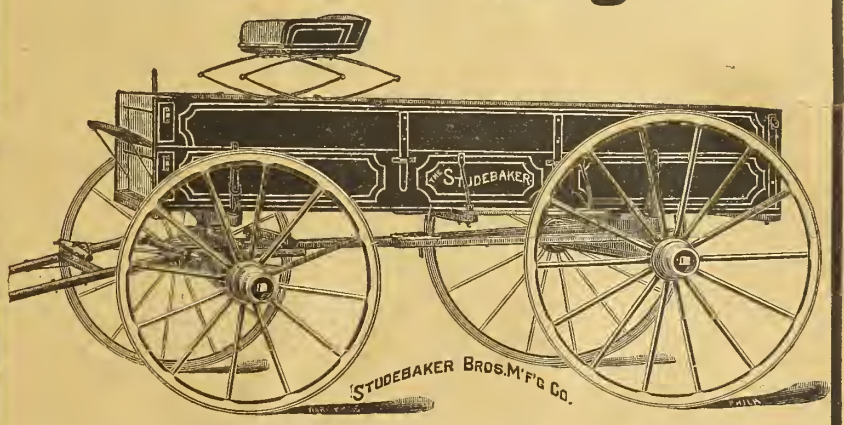
Spade and fit ground for fall bulbs.

Wash the shoulders of work horses.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino

When writing advertisers mention Cultivator.

Cross-Bar Wagons



For light ranch work, marketing, camping or prospecting, nothing is equal to a *Studebaker Cross-Bar Wagon.* We have them with sarven or wood-hub wheels, high or low wheels, wide or medium tires.
Write for catalogue and prices.

VEHICLES AND IMPLEMENTS
NEWELL MATHEWS CO. 200 N. LOS ANGELES ST. LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** WRITE FOR CATALOGUE
Tallerday Manufacturing Co.
PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles
MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1860
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR
AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, August 11, 1905

CONTENTS.

	Page.
Curing Figs	125
The Pine Apple in Hawaii	124
Bee Keeping for Beginners	125
New Horticultural Publications	126
Brawley as a Melon Section	126
Economy in Maintaining Fertility	127
Floriculture and Gardening	128
Agricultural Knowledge	129
Editorial	130
News Notes	131
Weaning Pigs	132
White Specks in Butter	132
Charcoal for Hogs	133
Don't Be Familiar	135
Poultry Questions	135
Growing Squabs for Market	136
Experience with Runners	137
Queries and Suggestions	139
Household	140-141
Markets	142-143

Cereal Crops of California—There is much disappointment among wheat growers at the results of this year's crop, not only in amount, but in quality. Up to sixty days ago it was generally believed the wheat crop would be normal. Early conditions of weather and moisture presaged a bountiful yield, but when examination was made it was found that early estimates were entirely too high and instead of a yield of 650,000 tons, 400,000 tons would be nearer the right figure, and even that amount is questioned by very conservative operators. The San Francisco Chronicle says:

"Samples of new wheat recently received in this city show the grain to be badly shriveled and of necessarily light weight, some of it averaging only forty pounds to the bushel. Strictly choice wheat will be decidedly scarce, and millers are even now placing orders in Oregon and Washington for their requisite supplies."

Those growers in Northeru California who have good wheat, that is wheat of good quality, will realize a handsome figure for it, and those whose wheat is inferior in quality will of necessity get a fair price, although they will not realize anything like what they expected from their harvest. They will probably get their expenses back, but no profit will be made.

Barley shows up much better than wheat, and the San Francisco Chronicle believes the yield of the State will be upwards of 650,000 tons. This is a satisfactory crop, and that grown in the coast counties will grade well, in both quality and weight. Oats are not very extensively grown in this State, but judging by the samples already received in this city, the quality is good and growers will doubtless receive remunerative returns.

* * *

About the Apple Crop.—The world's favorite fruit, the apple, is going to be scarce this winter and it now looks as if we shall have to pay as dearly for apples as the easterner does for lemons just before the fourth of July.

The Chicago Packer recently sent out a hundred or more telegrams into the apple districts of the United States and the information returned is summed up in the statement that "the crop will be 40 per cent short of last season's crop, if not more." Considering the fact that the crop was light, in most districts, last year, this information is not pleasing. When we consider that apples constitute our standard for fruit, as much as bread does our meals, the cutting down of 40 or 50 per cent of the crop is not a desirable fact to contemplate. We might possibly work through on this side, if European countries would let us alone, but already the demand is coming in for apples in such quantities as to lead to the belief that there are none to speak of across the Atlantic and that all the winter apples produced in America which can be spared will find a market in foreign countries. Prices undoubtedly will be high this fall and we shall be thankful to get even a moderately good apple and pay a fair price for it.

* * *

An International Bureau of Agriculture.—Once more California has come to the fore with a scheme to better existing conditions for the farmer, if we may rely upon information received from Washington. This time it is Mr. David Lubin, of Sacramento, who is credited with the conception of the plan proposed by King Victor Emanuel of Italy, which is to organize an International Bureau of Agriculture. Mr. Lubin explained to the king his project and the latter at once approved it. The king has organized an international chamber with headquarters at Rome, and suggests that other countries do likewise. The promoters believe that by this means "agriculture may be so centralized as to be able to face capital and labor, which are already organized and centralized in opposition to it, in the economic struggle." Government officials in the United States have not learned enough about the details to express themselves except in a general way. Secretary Wilson of the Department of Agriculture said that he was heartily in favor of measures that would be of advantage to the farmers the world over. He believes that this may be accomplished by an accurate exchange of information as to the principal crops of the world.

* * *

Good Suggestion.—"In displaying the advantages of California to Eastern home-seekers," says the San Francisco Chronicle, "the place of honor should be given to the dairy rather than to the orchard. The number of Eastern farmers who understaud fruit growing is limited, but every one among them understands the dairy and its profits. The effect of alfalfa upon the milk supply should be made much of, as well as the peculiar advantages of the climate. But it must be always remembered that practice is better than precept, and the California farmer who neglects the dairy is not only depriving himself of a considerable revenue, but he is detracting from the showing of the State as a whole. California ought not to import her dairy products, and the dwindling statistics of these transactions will mark the progress of the State toward agricultural sanity."

* * *

Diversified Farming.—With the advent of abundance of water into Southern California, will come a more general character of farming. In the north of the State this is true today. The farmer there does not depend wholly on one, or two kinds of crops; he mixes his grain growing with cattle and hog raising and when he is forehanded enough he adds a dairy. Down south of the Tehachapi our farmers have of necessity been circumscribed in their endeavors. They have felt that it is not safe for them to branch out too extensively into diversified farming lest they might be confronted by lack of water some time. Now, however, that danger is soon to be averted and water to do anything they care to undertake will be at their disposal. They can have both alternative and supplementary sources of income. They can raise fruit, vegetables for home consumption and the market, and to these add the dairy which, if properly conducted, is always a winner. Along the line of what appeared in this paper a week ago, concerning the possibilities of California, when the Owens river pours its waters into the southern part of the State, the Breeders' Gazette suggests that "there is abundant testimony that the farmer who can raise good cattle on home-grown feeds and sell them at an average of $100 is certain to make money. There is, of course, the personal equation, but even when allowance for this has been made the man who owns his land, has good pastures, with barn and an alfalfa and clover meadow, can hardly make a failure of it."

The Gazette recommends the purchase of a few good bred heifers, of some favorite variety. The first lot of calves will go far to pay for the purchase price. Whenever the herd reaches the size that is rendered desirable by the capacity of the farm the surplus can be sold. Prices will not, of course, be high, but they will certainly be remunerative for all desirable stock. A fortune is by no means necessary for a start. A small beginning can be made without a great outlay or a large farm, and the business can be extended as opportunity may offer. For the farmer who wants to make money and to put his land to the best and most remunerative use on a small capital there can be nothing safer or better than intelligent stock raising.

Under existing conditions this is not practicable in Southern California, but it is in Northern and Central California. However, these conditions will all be changed in a few years, and it will be possible to raise stock and operate dairies when the Owens river project is developed, as easily in Southern California as in any other section of the State.

* * *

Tell Your Friends.—The Cultivator is getting to be so valuable that every farmer in California will have to take it to keep abreast of the times. We not only say it is the best paper of its kind on the coast, but we believe it to be. It is prepared with the utmost care to make it of value to readers, the best talent in the State is employed in its several departments, and just as fast as support comes to it to warrant it is enlarged in size and otherwise improved. That it is carefully read there can be no question, for scarcely a week passes that letters are not received commending its position on public questions, or asking for information on subjects pertaining to agriculture, plant or animal life. The paper has more than 10,000 subscribers, it is read every week by 20,000 or more people. It ought to have twice the number of subscribers and be read by 40,000 people each week instead of 20,000, as at present. All that is needed to double its circulation is to acquaint new comers to the State with its character and worth. We desire to suggest to the old time friends of the Cultivator that you make a point of telling your neighbors of the real worth of the paper; for by so doing you will help to increase its circulation, make improvements in the paper come sooner and assist the publishers in making the greatest general farm paper on the Pacific coast.

Valuable as we believe the paper is, our friends may help us to make it even more valuable. If you have a better way of cultivating corn or potatoes or any other farm crop than your neighbors, write your experiences and let us publish them for the general good. If your hens lay more eggs, or your chickens make a finer growth, keep in better health and prove more profitable than theirs, tell us for publication how you manage to get such good results. Tell us how you manage your orchard to produce the best fruit; tell us how you feed and care for your cows to make them give so much milk and butter. Tell us about the various and sundry farm economics that you have discovered, whether in the house, the barn or the field, and let us publish your methods for the benefit of others. Every farmer knows something that would benefit his brother farmers, and he should be willing to tell it. If all the readers of the Cultivator will do this, we can make it the most valuable and interesting weekly magazine in the country. We can not estimate the value of exchange of thought and methods of work to accomplish results. Knowledge is power and the more we can have of it the greater will be our success.

* * *

Doctor Moore Discredited.—The National Stockman and Farmer, in its issue of August 3, presents an editorial on the subject of nitro-culture, which is interesting and valuable in that it exploits the connection of Dr. Moore, late bacteriologist in the Bureau of Plant Industry, with a firm which is preparing the compound as a commercial fertilizer, and selling it to the public under the impression that it has the endorsement of the Department of Agriculture.

Dr. Moore, it will be remembered, has resigned his official position with the department, and the fact that the compound his firm and others are offering to the public is not endorsed by the Department of Agriculture, raises the question as to whether it is best for farmers to purchase this fertilizer until its merits have been proven. In this editorial the National Stockman and Farmer says:

"Acting Secretary Hays authorizes us to make the following statement:

"Assistant Secretary Hays is making an investigation into the matter of the value of nitro-cultures, and permits us to say that people would do well to await the results of this investigation before depending too much on nitro-cultures from commercial firms."

The Cultivator, having made mention of this fertilizer in several numbers, desires to publish at this time the advice offered in connection with its further use.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

Prune drying around Healdsburg has commenced.

Redlands has shipped 3668 cars of citrus fruits this season.

The peach crop around San Jacinto promises to be a big one and of good quality.

The grape crop in the hill sections of the Pajaro valley is reported very promising.

Many table grapes are being shipped out of Dinuba in car lots to the San Francisco market.

The fruit crop at Auburn is moving rapidly. Pears are coming in but the crop will be light this year.

Wm. McLaughlin has sold his crop of Valencia oranges from five acres at Anaheim for $3200 net on the trees.

Word comes from Marysville that pears are bringing as high as $65 a ton. This price will net orchardists a profit in spite of poor crop.

Leonard Coates, the old Napa nurseryman, has removed from Fresno to San Jose and will go into the nursery business on a large scale.

The work of harvesting the crop of Gravenstein apples about Watsonville will be completed by the 15th. The crop is the best in years.

The apple crop of the Pajaro valley is estimated at three thousand carloads for the season, which will be the largest in its history. Codling moth are not nearly so much in evidence as in former years.

The co-operative winery at Woodbridge, San Joaquin county, is nearly completed, and will commence on its fall work next week. The stockholders represent 1000 acres of wine grapes, every acre counting one share.

From six acres of the Giblin orchard near Marysville, seventy-four and a half tons of peaches have been picked this year. At the prevailing prices, this will be worth in the neighborhood of $3750, or an average of $625 an acre.

The State Floral Society will give a fall exhibition in the Ferry building, San Francisco, the latter part of October. The Southern California Horticultural Association will hold its floral exhibition at Los Angeles November 2nd, 3rd and 4th.

The Highland Messenger says: "The fruit exchange has received $80,000 on proceeds for eighty consecutive cars of lemons, shipped since July 1st, an average of $1000 per car. The figures are not less than astounding."

At a recent meeting of the members of the A. C. G. Exchange at Glendora it was decided that the Charter Oak association might again affiliate. The present packing house is to be enlarged. The association will discontinue fumigating and sell its outfit.

A dispatch from Lodi states the price of Tokay grapes has advanced from $150 per acre for the crop to $180 per acre, the purchasing company to pick the grapes. The grape crop in northern San Joaquin is reported heaviest in years, over one thousand acres of new vines coming into bearing this season.

Our field man in Santa Clara county writes that canneries are busy with plums, apricots, pears and peaches. Crop of apricots is heavy in the valley, peaches and prunes are light, but along the foothills there is a good crop of both and the quality extra fine. Growers are generally holding for better prices.

The Lindsay Fruit association has passed the following resolution: "Resolved, That whereas the selling of cull oranges to peddlers in Tulare county is doing the orange industry an immense amount of damage, it is the sense of this association that all culls should be destroyed by the packers and growers of this county, and that the co-operation of all associations and growers be invited to obtain the complete destruction of all such fruit."

The California Citrus Union has paid at Colton the following returns to its growers for Mediterranean Sweets: First pool, fancy, $1.78 per box net to growers, or $2.63 per 100 pounds; choice, $1.48 per box net to growers, or $2.18 per 100 pounds. This is at a rate for all Sweets delivered at the packing house on this pool, including culls, of $2.228 per 100 pounds. Second and last pool, fancy, $1.86 per box net, or $2.7353 per 100 pounds; choice, $1.60 per box net, or $2.35 per 100 pounds; standards, $1.40 per box. or $2.05 per 100 pounds.

The Swiss-Italian colony at Asti, where is located the largest wine tank, is now in shape to handle six or seven thousand tons of grapes. The season will commence early in September, and one and one-half to two million gallons is the annual output. We understand the colony, in connection with the California Wine Association, is to put up a large office and bottling works in New York, where California wines under California labels will be extensively handled and advertised. California wine is as good as the French if the people would only think so.

AGRICULTURE.

The new crop of hay is arriving at San Francisco at the rate of 5600 tons per week.

Harvesting has commenced on the San Joaquin ranch, Orange county, of the 6000 acres of beans. A heavy yield is anticipated.

There will be a meeting of the hop growers at Ukiah, August 12th, for the purpose of fixing the price of picking the coming hop crop.

Already there have been threshed about two thousand cars of grain in Riverside county and about thirty-five machines are still working.

The second fire of the season visited the big Dunphy ranch in the southern part of Monterey county last week, destroying a large amount of grain.

One of the largest chili pepper crops will be grown this year around Anaheim. The growers hope for the price to range from eight to ten cents per pound, which will net them from $100 to $200 per acre.

O. W. Lewis, of Fresno, who recently purchased a section of land two and a half miles west of Corcoran, is having four wells put in the tract and as soon as the planting season arrives will set the entire section out to asparagus.

One million dollars has been distributed among the citrus fruit growers belonging to the associations that comprise the Ontario-Cucamonga Fruit Exchange this season, the majority of the fruit of this exchange having been shipped from Uplands.

The Exeter Sun says that the association at that place has shipped some 6000 boxes of cantaloupes. Last week the growers received $2.25 f. o. b., Exeter, which leaves a big profit for the grower. In addition to cantaloupes, a large number of watermelons in carlots have been shipped.

The Fullerton Vegetable Union at its annual meeting last week elected the following directors: T. B. Steward, W. Parrott, Geo. Porter, Henry Meiser and August Miller. J. A. Vail was reelected manager. The sweet potato growers will go into the organization again this season. Last year this organization marketed 8500 sacks of sweet potatoes, which sold for over $10,000. It is estimated the crop this year will be fully as large and will come in the market commencing August 15th.

LIVE STOCK.

Two special trains of beef cattle were shipped from Willits to Santa Rosa last week.

The recent rains in the San Simon valley, Arizona, have put the ranges in fine condition.

Sonoma dairymen are talking of organizing a stock company to build and operate a creamery.

The Sherer 80-acre ranch near Compton, with 77 head of cows, has been leased by John J. Pace, of Ventura.

The Pacific Coast Trotting Horse Breeding Association will hold its annual meet at Santa Rosa commencing August 16th.

The Maple Grove creamery plant at San Luis Obispo has purchased the machinery of the creamery on the Santa Manuela ranch.

The Fairchild-Wilton-Gilmore Co., at Victorville, have recently put in an irrigating system on their three hundred and twenty acre ranch on which they propose to raise stock.

The Chino Land and Water Co. has contracts for all of the beet pulp of the big sugar factory there and is now negotiating for some three thousand head of northern cattle which they will fatten there for the market.

The creameries at San Jose have each been trying to secure control of the cream output in the vicinity of Gilroy. As a result, bids were offered at two cents per pound above prevailing market prices which were accepted by the dairymen.

MISCELLANEOUS.

Eleven counties will make exhibits at the coming State fair.

The Humboldt county fair will be held at Eureka, September 11th to 16th

A civic improvement club has been formed at San Gabriel with 120 members.

An average of two to three cars of tan bark are shipped from Healdsburg daily.

Jacob Stoner has purchased the Thieme packing house at Corona; consideration, $6200.

Ventura county bee men are hauling their bees to the valley country that they can feed on bean blossoms.

The Ontario Record issued a fine 68-page magazine number last week, giving a thorough writeup of Ontario, the model colony.

Returns from county assessors from fifty of the fifty-seven counties of California show an increase in assessment of $84,029.258.

The Parker Brothers are to sink a well 2500 feet deep on their ranch in Graham county, Arizona, with the anticipation of striking artesian water or oil.

The Kings county supervisors report a valuable discovery in making new roads. After the roads are oiled, they cover with straw, saving a great waste of oil.

The Southern Pacific announces that it will soon commence the construction of a branch to Oregon line from Drain to Coos Bay, a distance of eighty-one miles.

The Southern Pacific road announces that they will spend $10,000,000 in railroad building in the States of Washington, Oregon and Idaho within the next year.

A fire near Bloomington last week destroyed the apiary of Mrs. W. H. Smith. Sixteen stands of bees, a honey house and considerable canned honey were burned.

A new glass manufactory is to be established at Monterey. The plant will be of thirty-six blow capacity, and will give employment to about three hundred men.

The Santa Fe will construct a branch line from near Reedley to the new winery of the California Wine association. This winery is one of the largest in the State and will handle the product of many thousands of acres in that section.

H. E. Huntington has been granted a fifty year lease for space in the outer harbor at San Pedro on the agreement that he is to build large wharves. Mr. Huntington intends using the harbor for the use of the Oriental trans-Pacific trade.

The Butte County Canal Co. is trying to secure contracts for irrigation of ten thousand acres of land in Sutter county next year, when the work of extending the canal will commence. At present the canal is built to the Sutter county line on the north and supplying water to thousands of acres of land in Butte county.

Our correspondent in the north writes: This month is the open hunting season in Sonoma county. In Mendocino county it lasts until September 15th. So the deer are having a strenuous time about now. The Russian river banks and the mountains are alive with campers at this season, mostly from other sections, while the residents here are away camping in other districts. Anything for a change. Hop pickers too, are on the move and will soon be in demand to gather the coming crop.

C. H. SESSIONS, ASSOCIATE EDITOR

WEANING THE PIGS.

Thirfty pigs are generally ready for weaning at seven weeks old, and in order that their growth may not be materially checked at this time it is well to teach them to eat a little before they are ready to be weaned. This can best be done by pouring a little milk, sweetened, if necessary, into a shallow trough out of the sow's reach, and if one of the pigs can be induced to drink the others will follow. You must provide dry pens, plenty of shelter for bad weather, clean troughs and feeding floors. Subject the porcine friend to damp sleeping quarters in fall and winter and you will knock out his constitution. Rheumatism and other troubles will result. Filthy feeding troughs mean filthy bowels and worms, with a weakened body that cannot throw off the poisons of plague or cholera. Dusty feeding grounds mean coughing and sometimes aggravates tuberculosis. Provide floors where needed and have hearty, healthy hogs. Put brains into the work among hogs. Drain the hog yard and give them alfalfa to roam in. Make the roof of the hog house one series of doors that can be thrown back, letting in the sun to purify the interior. Use air-slacked lime to keep things clean. Just because the hog drinks out of a wallow do not think he is naturally filthy. Put some money into a few real necessities for his proper care. It pays. Raise hogs by making a business of it.—Farm Magazine.

WHITE SPECKS IN BUTTER.

In reply to query Hoards has the following:

The cause of white specks in butter is usually overripe cream. When cream sours too far before churning, the curd in the cream is hardened by the continued souring and contracted into small white specks which may be retained in the butter if not removed by washing. As a rule, butter of this sort is more commonly made in farm dairies than in creameries, because at the farm dairy, cream is collected for several days and the first lot of cream is likely to be very sour before the mixture of several days' cream is churned. This separates the curd and although it is mixed quickly and thoroughly through the cream during churning, the harder specks are apt to be left in the granular butter and not washed out with the buttermilk.

Butter made from cream containing this kind of curd can be freed from these white specks by washing the granular butter in the following way: When the butter breaks and the granules are about the size of wheat grains, draw off the buttermilk, then fill the churn about half full with cold water, revolve it a few times and let the churn stand until the granular butter rises to the surface of the water; the curd being heavier than the butter will sink to the botton and may be drawn off through the draining plug at the bottom of the churn. By repeating the washing of the granular butter in this way, one can separate the hard specks of curd very readily and thus prevent their appearance in the finished butter.

MILK FEVER TREATMENT.

The Cultivator has given many times the air injection treatment for milk fever, but it is yet unappreciated by many. A speaker at a recent eastern dairy meeting referred to its importance as follows: "Every farmer ought to have a bicycle pump fixed with the tubing, and on the end of that he can put a small milking tube or goose quill. Put your bicycle pump in boiling water and let it remain there five minutes, so as to sterilize it in order that no bacteria may be carried into the udder. With this pump you inflate one quarter of the udder until it is fairly well distended, then the next quarter, and repeat this until all four quarters are fairly well distended; then give the udder a thorough massage, rubbing it well. I forgot to mention that all the milk from the udder should be removed before any air is forced into it. Rub the udder thoroughly and that is all there is to it. You do not need to do anything else. If you can remove the excreta, well and good. If the cow does not get up in an hour, repeat the injection. I have never known of a dairy farmer who has tried that treatment without having great success. It is a very simple treatment."

There are more up-to-date appliances now advertised in the Cultivator which may be used. These should be purchased and kept on hand for emergency. Dairymen who wish to be on the safe side should take no risks, as the remedies for milk fever that have heretofore been used are not to be compared in effectiveness with the sterilized air treatment.

A. J. C. C. AND THE BUTTER FAT TEST.

Owing to much contention as to the best method of testing the capacity of a cow to produce butter and the position taken by the American Jersey Cattle Club, which it has been claimed is often misunderstood by the press, we give the following by R. M. Gow:

Some of the agricultural papers of the country have been industriously spreading strange news in regard to the attitude of the American Jersey Cattle Club on the question of testing milk by the Babcock process. We have been told that fossilism is in control of this association; that it sticks to the foolish churn test idea; that for unreasonable obstinacy it takes the plum; that it displays painful ignorance of the progress of dairy science, etc., etc.

As the "painful ignorance" is altogether on the part of the papers which persist in this line of statement, the dairy public will probably welcome correct information on this subject. The A. J. C. C., composed, as it is, of

TUBULARS WRING GOLD FROM MILK

Tubular butter brings 25 to 35 cents. Cream is worth only one cent for stock food. Yet many farmers have no separator—only half skim their milk by setting—lose 24 cents on cream fed to stock—and wonder why dairying don't pay. **Tubulars stop this loss. Tubulars get the last drop of cream out of the milk**—make big profits. Tubulars are the only modern separators. Notice the low can and enclosed gears. Write for catalog S-260

THE SHARPLES SEPARATOR CO., WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

Sharples TUBULAR CREAM SEPARATORS

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA

THE BUFFALO
Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.

We manufacture *BUCK RAKES*, Stackers, Gang Plows, etc. Write or see us before buying.

We Have a Good Assortment of Second-Hand Presses on Hand Now

L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

HAY PRESSES LEAD
IN DURABILITY AND CAPACITY
OLDEST AND BEST KNOWN. MANY STYLES.
HORSE OR BELT POWER. GET PRICES AND TERMS.
KANSAS CITY HAY PRESS CO.,
No. 451 Mill St., Kansas City, Mo.

When writing advertisers mention Cultivator.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

FLYO-CURO
Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL
The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON 884 James Flood Bldg., San Francisco

MEALFALFA

Reg. U. S. Patent Office

AS A HORSE FOOD

Horses in cities, as a rule, are fed upon grain and grain hay. These feeds are far too heating and the result is that the horses finally burn out and break down. ***Mealfalfa,*** being a green feed, rich in protein, is an excellent remedy, as it cools the blood and keeps the horses in fine condition by regulating digestive disturbances. It furnishes material to make bone and muscle, builds the horse up, makes him strong and gives his coat a fine glossy appearance. It is the best food for all draft, livery or driving horses. If you feed oats straight, use one of ***Mealfalfa*** with every four of oats. If you use barley and oats mixed, use two of barley, two of oats and one of ***Mealfalfa.*** If you use crushed barley, mix two parts crushed barley to one of ***Mealfalfa.*** Mix it dry in a bin. In this way your horse gets the best ration possible and in the most digestible manner. It will prevent your horse from breaking down.

In case your horse ever becomes sick, feed him ***Mealfalfa*** as a wet mash and you will get favorable results quickly.

Stockton Mealfalfa Co.
STOCKTON, CAL.

When writing advertisers mention Cultivator.

practical dairymen, progressive breeders, successful business men, prominent statesmen, and members of the various learned professions, is the last body in the world likely to be behind the age on any practical question affecting its interests. Among its large membership there are doubtless differences of opinion as to the relative value of the various methods of testing dairy cows, but the consensus of opinion in the club is embodied in its laws and rules, and those rules provide for the acceptance of tests made by all approved methods, both privately and officially applied. The club is not composed of either fat test faddists or churn test faddists, so neither method of testing has been rejected, but each is given its due place. Some outsiders would have the club abolish the churn test entirely as obsolete and inaccurate, but there is no good reason why this should be done. The confirmed butter tests made under the rules of the club are made by the fat test in the hands of representatives of the agricultural colleges, supplemented by the churn in the hands of the owner of the cow or his agent, the two methods being thus independently applied in each case, and these tests have proved the accuracy of both the Babcock test and the churn test, the average difference between the two tests being but 5⅝ oz. butter per cow per week in favor of the fat test, and this difference is fully accounted for by the necessary loss of some of the fat in the skim milk and buttermilk. So there seems to be no good reason whatever why the club should reject churn tests on the score of such tests being inaccurate, to say nothing of the desirability of acquiring evidence of the churnability of the milk and the quality of the butter; for in the production of butter it is the fat that can be recovered in butter that counts, not what may be found chemically as present in the milk.

But at the same time no stigma whatever is cast by the club upon the fat test, either expressed or implied. A churn test or a fat test, if made in accordance with the club rules, and if the required standard is reached, equally entitles a cow to entry in the club's Register of Merit. Both methods of testing are put upon an exact equality, and, as has been said in the case of "confirmed" tests, both methods are employed, each to verify the other. In the case of the cow demonstration at St. Louis, where churning was impracticable, the club freely accepted the Babcock fat test, under which the Jersey herd competed, evidence enough, if evidence were needed, that the club has no objection to or prejudice against the fat test; for, let it be fat test or churn test, the Jersey cow does not fail to come to the front.

DON'T BE FAMILIAR.

Regarding the temptation of being familiar and making a pet of the young bull, we note the following in an exchange:

Farmers sometimes allow their boys to become entirely too familiar with the bull calf by encouraging him to become playful. Boys, do not do this. Preserve your dignity when you are about the bull calf. Treat him kindly, but give him to understand always that you are his master. Never let him know how strong he is, and never trust him. You may have confidence in any other live stock on the place, but you should never have any faith in the promises of a bull. The dangerous bulls are those with whom familiarity of the farmers' boys breeds contempt. Some day, in a moment of ungoverned passion, he will realize his power, and then there is danger of a funeral. There is never any confidence to be placed in a bull, or in a man who cannot control his temper. It is hard to tell which of these is the most dangerous.

Just before milking, the udder and adjacent parts should be moistened with a damp cloth. The milking should be done with dry, clean hands. The clothes of the milker should also be clean, although that is not generally the practice.

CHARCOAL FOR HOGS.

The economical and satisfactory way of securing a good supply of charcoal for hogs is as follows, says the Iowa Homestead:

Where one has a supply of corncobs it is not a difficult matter to make up a batch of charcoal. Dig a pit sufficiently large to hold the amount of cobs to be used at one burning. Usually this pit is circular and may be made four or five feet deep. However, we have had good success in using a trench about two feet wide, four feet deep and any length.

Start a fire with shavings and kindling in the bottom of this trench and gradually pile on the cobs. Care must be taken not to smother the fire—just allow the flame to show through the surface all the time until the pit is full, then place a tight covering over the top. Wood will not do, as it will burn out. It generally pays to have on hand for this purpose an old piece of sheet metal of some kind. Build a little earth around the edges, so as to absolutely exclude the air.

When the charcoal has cooled off it may be sacked up, and usually it is advisable to mix with it a little salt. A mixture composed of one barrel of charcoal to one pail of salt is usually eaten eagerly by hogs. Where it is desirable to use such a mixture for the prevention of worms, a little copper sulphate may be dissolved in water and then sprinkled on this mixture, so as to cause its uniform distribution. The whole mixture is usually placed where hogs may have access to it at all times. It is not difficult to extemporize a self-feeder so that the mixture is kept dry.

WRAPPING BUTTER SQUARES.

The question is often asked if it is better to wrap butter with wet parchment paper than with dry paper. The answer is variously given, says the Farmers Review. Some butter makers in creameries wrap their butter in wet papers for the following reasons: The butter will not stick to the paper so much and the squares can be wrapped more quickly with wet papers than with dry, as they bend more readily. When wet paper is used it could have been soaked in boiled brine and so be free from spores. This helps to keep the butter from being affected by spores on the paper. The men that wrap dry claim that while it takes a little more time to do the work of wrapping, the package looks smoother as the wet paper wrinkles on drying; also the brine in the butter seems to work through the parchment paper more when it has been wet, as is seen by the salt incrustations on the sides of the squares. If the butter is to be used at once there is no reason for using wet paper, but if the butter must be kept a long time it is doubtless better to use parchment paper that has been well soaked in brine or some other anti-septic solution.

COLLAR OF THE WORK HORSE.

Next to a well fitted collar salt water and borax wash is the best treatment to toughen the tender skin and save pain and trouble with shoulders. For years we have made it a custom to send work mules and horses to the harness maker, where each could be accurately fitted in the spring with a new collar if needed. It pays to fit the collar to the individual. We have thin necks and thick necks to fit, and the same style or filling will not fit all—to say nothing of measurements from top to bottom. Do not make the serious mistake of taking up or letting out hame strings to force a bad collar to fit. It won't do it.

Manure is one of the incidental products of sheep raising and its careful saving and intelligent application will add much to the profit.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."
When writing advertisers mention Cultivator.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

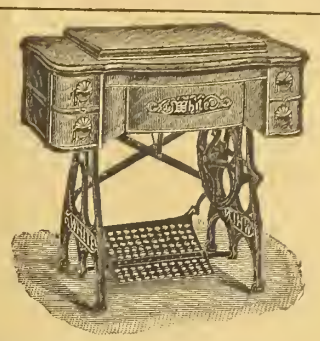
JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
Jerseys with a record as milk and butter producers
Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams, for sale.
L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

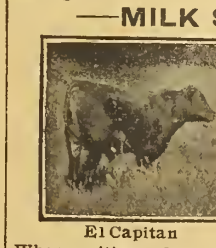


Have You a Good Road Horse or Single Buggy
FOR THIS FINE $65 SEWING MACHINE?
If so, write description and value, or call.
F. D. French, Perris Road, Long Beach, Cal.
When writing advertisers mention Cultivator.

Berkshire Hogs ♦ Dairy Shorthorn Cattle
I am booking orders for pigs for September delivery. G. A. MURPHY, PERKINS, CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Holsteins For Sale
From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.
MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.



PAXTON'S VETERINARY REMEDIES
for Horses and Cattle. Write for circular.
Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles
Laboratory at La Porte, Ind
When writing advertisers mention Cultivator.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.
When writing advertisers mention Cultivator.

NOTES BY A CULTIVATOR REPRESENTATIVE.

Dairy Inspectors Beware.—As I stood admiring a herd of Jersey beauties, just north of Compton, the monarch of the yard, huge of limb, shaggy of brow and fire in his eyes, hurried up to the fence and "squared away" for action. I was on the safe side of the enclosure. It was a challenge. Perhaps he mistook me for a dairy inspector, or a member of the board of health who had been writing unfavorable reports about the sleek and clean members of his harem. I have visited a large number of dairies near Compton and Hynes, and almost always found the stables and yards in fine order.

* * *

An Invitation.—Mr. Yeoman,s of Compton, says any dairy inspector is invited to visit his premises without previous notice, eat at his table and inspect his dairy, and if he does not find things as neat as his own he will give him the best cow in the herd. As I had the pleasure of eating at his table and inspecting his cows, I consider his offer a prefectly safe one.—O.. Los Angeles.

FOR CAKED UDDER.

L. S. Kirkpatrick, of Hynes, says that when a cow comes in at night with a partially caked udder, he has always found that an immediate application of hot lard with a little turpentine will soften up the caked part, and restore it to its normal condition. He does not claim this as any new discovery, but it is sometimes well to refresh one's memory with remedies used fifty years ago.—O.

BAD TEETH.

Regarding preventing horses turning their heads from feed box and losing much of the grain while eating, a writer in the Dakota Farmer gives plans for constructing feed boxes so as to prevent horses from turning their heads from the feed boxes while eating. "I have a plan which I believe is better than any offered so far as it removes the cause. Turning the head to one side while eating is almost a sure sign of defective teeth and a veterinarian should be called and the teeth attended to. This will usually remedy the matter.

HOW TO SKIN A HORSE.

This is my way of skinning a horse. Rip clear from chin to end of tail bone, skin back the neck and belly six or eight inches, skin out the legs clear to body, skin the head out, tie a loop knot around this with strong rope to back of the ears, to hitch team to. Tie the animal's head to a post and pull in the opposite direction. If your team stays by the job it will not last long and the hide will come off tail and all and there will not be any holes in it. There is nothing nicer in the line of robes than a horse hide if taken off in the right season and properly tanned. I have seen some robes that were considered worth more than the horse that wore them.—Dakota Farmer.

Sheep and lambs are often deceptive to the eye. A short legged, short-bodied sheep is often heavier and will produce more wool than one that looks to be twice as large. Great, coarse-looking sheep are not desirable.

NO MORE FREE GRAZING.

California forest supervisors have received instructions that after January 1, 1906, they are to make charges on all stock grazing on the forest reserves. Sheep and goats will not be permitted on California preserves. The charges are to be, at the outset, according to instructions, a minimum of from 25 to 35 cents per head for cattle and horses for the regular summer grazing season and from 35 to 50 cents per head for the entire year. These prices to be increased gradually when warranted by market conditions.

EVERY BLOCKHEAD CAN'T RUN A DAIRY.

In a series of articles on dairying the San Francisco Call makes an appeal for more attention to dairying and urges impressing upon new comers its advantages and the advisability of taking up that line of work. It says: "This advice may well go to the eastern settlers who are flocking in. Not many of them are skilled in fruit growing, and none have knowledge of the peculiarities of horticulture in California, but nearly all of them know the cow and are familiar with dairying. They find here in alfalfa the best milk food in the world.

Now then, the Call means all right, but there is a slight implication there that 'most anybody knows enough to run a dairy. So it may be said that any one knows enough to dig a hole and shove a tree into it; but that does not constitute successful horticulture. True, "nearly all of them know a cow" in that it usually has "horns on its front end, has four legs, one on each corner, and a tail on the other corner." We wish it were true that "nearly all of them know a cow," in a different sense.

There are wonderful possibilities in California dairying. To develop these possibilities it takes intelligence of a high grade. Let us encourage that class to engage in dairying, for there are already enough of the others.

Don't keep cows in same barn with other stock. Time is money; therefore the barn should be convenient for cleaing out, for feeding and for getting cows in and out. It should allow an abundance of sunshine.

For ventilation, have windows hinged at the bottom and open in. We salt in boxes in the winter time, where the cows have access to it at all times. In summer put it into the feed at the rate of two ounces per cow per day.

Every young man who contemplates following the dairy business should take a course at the agricultural college. In addition to the scientific knowledge obtained there, it will engender studious habits, which always insure success.

It is generally acknowledged that every dairy farmer who wishes to keep the average yield of his herd up to the mark and wishes to try and improve the same, ought to test the animals periodically in regard to their milking power.

The advancement made in dairy science during the last few years is wonderful and the future has still brighter things in store for the up-to-date dairyman. These facts are now before the farmer and he must heed them or fall behind the procession.

For best results hogs must be kept free from lice. Dipping is growing in favor and some day will become the rule.

Six pounds of skim milk is equal in feeding value to one pound of shorts. They make a fine combination fed together.

The weather and crop conditions for the week ending August 7 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—The weather was clear and cool for the season until near close of the week, when higher temperature prevailed. Foggy nights and mornings were frequent in the coast districts. The overflow of the Colorado river in the Salton basin and the Imperial district has caused some damage, especially at Calexico, where 1000 acres were flooded.

Grain harvest is completed in many sections and progressing rapidly in others. Threshing will not be finished for some time. Wheat, barley and oats are reported below average in nearly all parts of the State, possibly excepting portions of Southern California, where the yield is the best for several years. Barley has yielded a very fair crop in portions of the Coast and Bay sections. Hops are improving and making good growth; picking has commenced in the vicinity of Sacramento and the first bale of new hops was shipped east during the week. Hay baling and sugar beet harvest continue. Beans, corn and vegetables are doing well. Dry feed is plentiful in most sections and cattle are in good condition.

All varieties of deciduous fruits are ripening rapidly and large shipments are being made. Canning and drying are progressing. The yields are better than anticipated in many sections, though generally below average. Grapes are somewhat backward, but continue in good condition and are maturing quite satisfactorily; the crop will probably be large and of excellent quality. Citrus fruits, olives and walnuts are in good condition.

Eureka Summary—The acreage in oats is larger than last year; quality excellent. Hay is being stacked; quantity and quality never better. Early varieties of apples are in market; crop average.

Los Angeles Summary.—Cool, cloudy weather along the coast continues. It is favorable for beans, but retards fruit drying. Conditions in the interior are favorable for hay baling and threshing. Honey harvest is about over, with a successful season.

DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES
Simplest Press Made.
LOW BRIDGE
Lifting jack goes with each Press. Powerful—puts full weight into box car. Tracks with a wagon; 2 horses draw it on common roads.
Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

IMPERIAL VALLEY HERD
DAIRY SHORTHORN BULLS FOR SALE
Admiral Dewey 183493 and King Edward 184393 at head of herd. Address
Fred Fuller & Bro. Imperial, Calif.
When writing advertisers mention Cultivator.

WIRE FENCE
GOODS CLOTH NETTING WORK BARB WIRE
HOG COW HORSE SHEEP
WEST COAST WIRE & IRON WORKS 19 FREMONT St. SAN FRANCISCO
When writing advertisers mention Cultivator.

SUGAR=BEET=PULP
A Cooked "Cow-Breakfast-Food"
TO FARMERS, STOCKMEN, DAIRYMEN:
SUGAR-BEET-PULP, 60c per ton f. o. b. cars or wagon, fresh from factory. Professor Carlyle has demonstrated that 3¾ pounds of sugar-beet-pulp equal 1 pound of alfalfa hay in feeding value; and that 3 pounds of hay equal 1 pound of corn in feeding value. Hundreds of satisfied users have proved it to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.
Los Alamitos Sugar Company Los Alamitos, Cal.
When writing advertisers mention Cultivator

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.
When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

We are sorry to announce that owing to sickness, Mrs. Basley is unable to continue her regular article this week. A few queries held over from last week are answered by her. We trust her regular department may be taken up in the next issue.

* * *

EDITOR'S QUESTION BOX.

Water-glass—(Constant Reader): I put some eggs into a solution of ten per cent water-glass about two months ago. It now seems to be congealing, or forming a paste over the top and on the eggs. Is it going bad? Should I take the eggs out and wash them? Or had I better use them now? I wanted to keep them for winter use.

Answer—The water-glass is all right. It forms a coating on the eggs and in that way preserves them. Your eggs, if fresh when put into the solution, will come out good a year hence, but you must be careful to keep them two inches below the surface, weighted down with a plate or board and large stone. A few days ago I met E. H. Fosdick, a very clever analytical chemist of Los Angeles, and had the pleasure of discussing the good qualities of silicate of soda (water-glass) with him. He asked me why I preferred water-glass to the lime and salt solution, which has been found very satisfactory. I told him that, first, I had tried the silicate of soda myself for three year and found it a perfect preservative; secondly, experiment stations had decided that it is the best preservative known; and, thirdly, I had found that the lime and salt solution would not always permit of the eggs being beaten up light for cooking. I had used this method for many years in the East, and whilst it kept the eggs very well, it was apt to partly cook the white. He thought that the silicate of soda would do the same, and he also feared that the eggs might taste of the soda. I have never noticed any taste of soda, but I have of the lime. The experiment stations recommend a ten per cent solution of the silicate of soda, and, in view of the possibility of its giving a slight taste to the eggs (which I have never discovered) it might be well not to make it any stronger.

* * *

BROODER CROWDING.

Editor Cultivator: Will you please tell me through your paper how to arrange young chicks to sleep at night. Mine pack and consequently many smother. I had them in a brooder and kept it the proper temperature. Is it necessary to have artificial heat through the night for chicks, or do they make heat enough when together in a box to keep them warm?

Is it all right to keep rooster of one's own stock, that is, shall I keep roosters out of my own brood or should I get roosters elsewhere for breeding. By reading the Cultivator and carefully following your directions as to feeding and caring for poultry, I have been able to get, daily, half as many eggs as I have hens all through the moulting. Always before I averaged one-sixth as many eggs as hens. The Cultivator is the most welcome guest we have.—Mrs. J. W. Wittman, Santa Rosa.

Answer.—I had similar trouble with young half-grown chicks. I circumvented the little perversities by making it very uncomfortable for them to crowd. I made a little floor, or rather a little platform of laths nailed, the space of a lath apart, on stringers three inches wide. I placed the ordinary perches about four inches above this floor and they found the lath floor so uncomfortable that they soon took to the perches. If you do not stop them crowding you will stunt the growth of the whole brood.

The second question I cannot answer as I know nothing whatever of your breed, not even what kind of fowls they are, nor how closely bred. You can easily see how difficult it would be for me to guess at the proper way for you to breed them.

* * *

DOUGLAS MIXTURE.

How often should the Douglas mixture be used. I have heard it well spoken of and saw in your paper how to prepare it; also the right quantity; but there was no specified way of how often to use it. Is it used more for a tonic, or a preventive of disease?

Is kerosene emulsion good after a few days standing? I think it very good for mites.

Do you think Darling's beef scraps as good as any brands and how much should be fed to 100 hens and how often?—Mrs. F. P., Santa Rosa.

Answer.—The Douglas mixture is both a tonic and a disinfectant. You can give it at moulting time for one week every month. Or if you have roup or any infectious disease in your yards you can give it for a month without harm, as a preventive.

Kerosene emulsion is good for several months if properly made, that is if it is churned sufficiently (about twenty minutes).

I use Darling's beef scraps and think them as good as any. Usually feed half an ounce per hen every other day, or one ounce when they are moulting.

MORE ON SUMMER HATCH.

Along the same line as Mr. Harrison's article in a recent issue, we note the following from the Poultry Gazette:

"It all depends on circumstances. If you have been successful in getting out a large number of early chicks and desire to continue hatching during the summer you must arrange to keep the late chicks entirely separate from the early ones. If all are allowed to run together the early ones which are by this time of good size, will trample over and crowd back the late chicks, with the result that the latter do not get the amount of feed necessary to force their growth. Then, too, the breeder who has a large number of early chicks generally loses interest as warm weather approaches, and does

BLUE ANDALUSIANS, Eggs after Sept. 1s
MRS. J. S. DUFF, 3145 S. Hoover St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at 1903 Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 Los Angeles, Cal.
RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.
Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

not look after the welfare of the late broods as carefully as he did those that hatched early in the season. He is not so particular about keeping the lice down. When this is the case late chicks are of but little value.

But now let us look at the other side of the question. Suppose you do have a large flock of early chicks and as poultry raising is your business—it is the way you make your living and get money for the children to go to the circus—you desire to hatch during the summer in the hopes of having enough stock to supply all demands. Your heart is in the work and naturally you will provide suitable quarters and range for your late broods where they will not be bothered by your half grown chicks. You care for them as carefully as you did the first little ones you took from the nest or incubator, and what is the result? They thrive and grow, and when early winter arrives they are pretty big chickens. And then when the December and January shows are on and many of your early cockerels are beginning to look a little coarse and the early pullets have lost some of their grace and beauty on account of having commenced to lay, you go to your flock of summer hatched chicks and pick out your cockerels and pullets that will carry off the ribbons. This is not an idle dream. It is facts we are giving you. This has been proven many times.

There is one more view of this summer hatched chick question. Every year there are a great many people who buy a setting or two of eggs and the chicks they get from these are the only ones they raise. Many times these people, who do not have incubators, are not able to obtain setting hens until late in the season, hence they must hatch their chicks during the summer months or go without. Now, there is no good reason why this class of poultry raisers should not buy one or two settings of eggs and get their chicks out during June and July. It is folly to discourage them. Not having any other young chickens to care for they will naturally take a great deal of interest and give their summer hatched chicks the care they will require to bring them out in fine shape.

So you see it depends on the people who are to raise the late chicks. It depends on circumstances. Summer hatched chicks are all right for the right people.

GROWING SQUABS FOR MARKET.

From a bulletin on squab raising issued by the Department of Agriculture we take the following extract:

"Poultry market men declare that for choice squabs it is necessary that a light plumaged breed having good size be selected, according first place to the white homing pigeon. These magnificent birds are large and healthy, are good workers, always active and hunting about like the Leghorn fowls; are the best feeders; are of quiet disposition when properly mated; and their eggs are seldom infertile. For these reasons I consider the straight homers par excellence among all the pigeon kind for squab farming." The author thinks well of the Dragoon, a blue plumaged breed, and states that a cross of the homer and Dragoon produces an excellent squab. The Duchess is preferred by some, but this breed has the disadvantage of possessing feathers on the legs. The runt is another breed often used for squab raising, probably on account of its tremendous size, but it is not a prolific breeder and is further handicapped by the fact that its meat is dark. Straight bred homers are said to be hard to obtain. Squabs of this breed are quick maturing, probably requiring less time than any other breed, and breeding stock therefore commands good figures. The beginners should endeavor to start with good stock, securing the assistance of an experienced pigeon raiser in selecting it, if possible.

* * *

Mating and Breeding.—Upon the important matter of mating the bulletin referred to says: "Unless the birds are known to be mated they should not be placed in the breeding quarters. Hence, a mating house, fitted with nest boxes, is necessary when but few birds are kept, and in this house they should be placed until they begin to carry building material and build nests; then, and not until then, they may be transferred to the permanent breeding house. When but few birds are to be mated a box with a wire netting front and a partition can be used, or any small room can be improvised."

To prevent the disastrous results which surely follow in the wake of careless breeding or inbreeding, the author advises marking and keeping a record as follows: Before the birds are placed in the breeding house each bird should be banded. Open numbered bands can be purchased by dealers at about 1 cent apiece in quantities of 100. Squabs intended for breeding must be banded in the nest before able to fly, as by so doing nest mates can surely be distinguished. If closed bands are used they can only be put on when the squabs are quite small.

It is advisable to keep a record book and enter the number of each bird, noting the sex, color, and any other distinguishing mark, so that the record will accurately describe the bird. Then should any bird die the record will show its sex and another mate can be substituted, or the remaining bird can be taken and placed in the mating coop until again mated.

If a beginner is in possession of a flock of fifty pairs of selected birds, well mated, this record will make easy the matter of increasing his flock intelligently. Young birds, from the best breeders only, should be selected and banded as directed. At the age of six weeks these youngsters should be taken out and placed in a separate coop, and in this coop none but young stock should be kept. All young birds before being thus put in a separate pen, should have all tail quills plucked out, because there is less mortality among birds so treated while attaining their growth.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT **Calfalfa Meal** ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings, or Oil Cake Meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots On Application

MILLS West & Nielsen Aves

California Stock Food Co.

FRESNO, CAL.

OFFICE 121 Forsyth Bldg.

When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

It is well for the beginner to keep a record of the squabs as produced, numbering each nest and entering in the records the birds working in each nest and the number of squabs produced. Some pairs will produce ten pairs of squabs a year, while others may yield only five. The record will enable the breeder to save young breeding stock from his prolific breeders only. If the bands are numbered consecutively and the birds are banded before leaving the nest, the nest mates will always have consecutive numbers. It sometimes happens that a nest will only have one bird in it, in which case the record should indicate that fact.

STORAGE EXPERIMENTS.

Experiments have been made by Director Strauch of the Neisse Agricultural school, Germany, with various methods for keeping eggs fresh. Batches of twenty fresh eggs were each subjected to treatment by different methods at the beginning of July, and they were examined at the end of February. The results are most interesting and proved that, if properly treated, eggs may be preserved for a long time. The twenty eggs kept in brine were all unfit for use; they were not decayed, but unpalatable from being saturated with salt. In the other treatments the results were as follows:

	Pct. Spoiled.
Wrapped in paper	80
Kept in a solution of Salicylic acid and glycerine	80
Rubbed with salt	70
Packed in bran	70
Painted with a solution of salcylic acid and glycerine	70
Immersed in boiling water from 12 to 15 seconds	50
Treated with a solution of alum	50
Kept in a solution of salicylic acid	50
Coated with soluble glass	40
Coated with varnish	40
Coated with collodian	40
Rubbed with bacon	30
Packed in wood ashes	20
Treated with boracic acid and soluble glass	20
Treated with permanganate of potassium	20
Coated with vaseline and kept in lime water	All good
Kept in soluble glass	All very good

It is important to bear in mind that the eggs must be treated when perfectly fresh.

AN EXPERIENCE WITH RUNNERS.

Editor Cultivator: As I have received much valuable information through the Cultivator, will give my experience as a beginner. We bought a trio of Indian Runners; they had not laid yet, they told us (likely had not been well fed.) They soon commenced to lay. Wet set them (after perhaps the first half dozen) and got nine out of twelve eggs. Then we bought five more, four ducks and a drake. That made us six ducks and two drakes; we set them under hens mostly, setting three or four hens at a time, twelve eggs under each. Set incubator once on 60 eggs, forty-four being fertile; kept it the same as for hens' eggs, excepting sprinkled the eggs the last week at noon each day. Only hatched seventeen from forty-four fertile eggs. Was not satisfied with that, so set seven hens on eighty-four eggs, and when they began to pip, put in incubator at 103 to 104 degrees. Hatched seventy-eight of the eighty-four (helped two out). Who can beat that?

Sometimes we left the hens to hatch them out, not paying any attention to them, more than to notice they did not get an egg mashed over the rest. They never hatched less than nine, and sometimes eleven, from twelve eggs, but occasionally would get one mashed. We took them out of nest two or three times a day as hatched.

We set hens in box with slat coop over, putting water and feed inside the first few days, After that, let hen off each day for feed. Have raised all in outdoor brooder, which we like very much, except the first hatch, which we tried with mother hen. Found her too much trouble at feeding time, and no good except to be with them at night. Have 125 or more ducks, good size.

This has been my first experience, but think I have been quite successful. Hope this will be some encouragement to others.—Mrs. W. S. M., Escondido, Cal.

To hurry the chicks from the incubator to the brooder invariably means a set back," writes one who has learned this by experience. His advice now is, "Give them time to dry off and get on their feet."

It is a good plan to get rid of the roosters, old and young, as soon as possible. The old ones are eating their heads off and the young ones should not be kept long after they reach marketable size.

THIS IS TO CERTIFY that I have sold all of White Leghorns, including my best breeders, to Mrs. P. L. Updyke of Fullerton, Cal. I can recommend the said parties as straightforward, honorable people who will do all they agree to.

JACOB KREGER,
ANAHEIM, CAL., AUG. 7, 1905.

Pure Bred Black Minorca Hens For Sale
Also some young birds of same breed. Inquire of D. M. HATHORN, COMPTON, CAL.
When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $1.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 15, $3 00 per 50, $5 00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

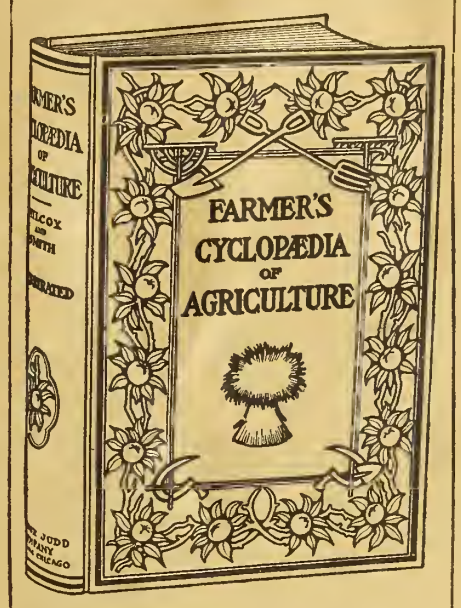
Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States
When writing advertisers mention Cultivator.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS'
BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

Farmer's Cyclopedia of Agriculture



A Compendium of Agricultural Science and Practice on Farm, Orchard and Garden Crops, the Feeding and Diseases of Farm Animals, Dairy Farming, and Poultry in the United States and Canada

Authors: EARLEY VERNON WILCOX, Ph. D.
CLARENCE BEAMAN SMITH, M. S.
Assistant Editors in the Office of Experiment Stations, United States Dept. of Agriculture

The World Moves

and whoever would not be left behind must lay hold on every means that enables him to move with it. As a basis of one's efforts nothing is more essential than the possession of a good work of reference

Adapted to the Conditions Peculiar to California and Adjoining States

The Farmer's Cyclopedia embodies in its many articles, most of the results of years of painstaking work at the California and neighboring State Agricultural Experiment Stations. It is thus, in effect, both a digest of local and state experience, and a compendium of general knowledge, all of which will prove of indispensable helpfulness to everyone in this section.

The Last Twenty Years of Progress

have measured more changes and recorded more advances in every branch of agricultural science than have been achieved during the hundred years preceding. During all these years no reference book adequately covering the subject has been issued.

The plan of this work is most comprehensive. Every article has received the most careful preparation at the hands of the authors, who have enlisted the co-operation of the highest authorities in the various departments. The greatest educators of the world, representing every branch of agriculture, here unite in one immense faculty to present directly and plainly the pertinent facts of their specialties. Every statement is authoritative and absolutely reliable.

If you wish to know about field crops, garden vegetables, fruits, nuts and other economic plants, farm animals, dairy farming, poultry, also manures, fertilizers, principles of feeding, soils, drainage, irrigation, spraying, veterinary medicines, etc, etc, it is here. Everything concerning farm matters is treated with great thoroughness, though without undue fullness. We claim for it the unique distinction of presenting for the first time, in a carefully arranged and perfectly accessible form, an accurate summary of every subject of interest to farmers, etc.

Over 6000 Topics Indexed
A Wealth of Illustrations

An important part of this work is its very complete and elaborate index, with cross-references under both scientific and common names, so that any information wanted can be found at once. There are between 6000 and 7000 topics covered in these references, making the most perfect index to agriculture ever attempted. It contains 700 royal octavo pages (9½ x 7 inches) and nearly 500 superb half-tone and other original illustrations. Type, paper, printing and binding are all in the highest style of the bookmaker's art, worthy alike of the well-qualified authors, the enterprising publishers, and the industry of agriculture.

PRICE IN HALF MOROCCO, $4.50

To Cultivator readers we make this proposition:—Fill out and sign the enclosed coupon and mail to this office and the book will be delivered postpaid at once and your Cultivator subscription advanced one year.

CUT OUT AND MAIL THIS COUPON AT ONCE

CULTIVATOR PUB. CO., LOS ANGELES, CAL.
Please enter my name for one year (NEW or RENEWAL) and send me the Farmer's Cyclopedia of Agriculture, half morocco. For both together the price to be $5.00, which I agree to pay as follows: $1.00 on the first day of next month and $1.00 on the first of each of the succeeding four months. Until the $5 is paid in full title to the Cyclopedia to be vested in you.

NAME.....

P. O..... STATE

THE PROCESS OF FIG CURING.

(Continued from First Page.)

they are dumped into the sweat boxes and are ready for delivery at the packing house. The cost of drying is in the neighborhood of $15 per ton.

* * *

The Calimyrna.—The gathering of the Calimyrna figs is done practically in the same way as with the White Adriatics, with the exception that the figs drop from the tree in a more uniform condition and if any fig does not drop readily when fully matured, a slight jar on the branch will cause it to fall. When the figs are carted to the drying ground, the are dumped from the boxes into a perforated tin bueket holding about one picking box of figs, and they are then immersed in a boiling brine for half a minute. The brine is made by dissolving six ounces of salt in a gallon of water. The figs are then spread on the trays and exposed to the sun. The method of handling on the drying ground is practically the same as for the White Adriatic except that they are exposed for a shorter time. In the height of the drying season they are turned over and the trays are then stacked, the hot air circulating through them after this being sufficient to dry them properly. From the drying ground, the figs are either dumped into sweat boxes, or are placed in a pile in a room in the drying shed built of tongue and grooved lumber. Here they remain for a number of days, being turned occasionally so that the moisture in them will be evenly distributed. The preparations before taking them to the packing house which follows are the same as for the White Adriatic.

The naturally white, silky appearance of the skin makes sulphuring of this fig unnecessary.

The black fig requires no dipping and no sulphuring and for this reason can be handled more cheaply than any other variety. The fig should be merely placed on the trays and when dried dumped into sweat boxes.

Another method of handling the White Adriatic and Calimyrna figs, and which has many advantages over the plan usually followed, is not to expose the figs on the trays until entirely dry, but, when half dry, to dump the figs on to muslin sheets, about five by seven feet. A sheet of this size will hold about one hundred and fifty pounds of fruit. As soon as the sheet is filled the four corners are drawn up together and twisted until the figs are completely enclosed. This makes a ball or sphere of figs in the sheet which is then rolled over with the twisted flap underneath. The weight of the figs prevents the flap coming loose. A bed of straw should first be made so as to prevent the sheets from becoming covered with dirt. These sheets containing the figs are opened each morning and the figs are spread out over them. They are exposed to the sun for a couple of hours, when they are again rolled up. The opening of the sheets and exposing of the figs continues until the leathery condition of the fruit shows that it is dried sufficiently.

This method has a number of advantages, among them being the fact that not so many trays are necessary to handle the crop, and another great point is that the figs are much softer and more pliable, and the quality as a whole is very much better. The following treatments which the figs receive, have already been fully described.

* * *

In the Packing House.—The first treatment which the figs receive when taken into the packing house, is to grade them into four sizes the smallest figs are never packed and are designated as one crown, the largest as four crown. After leaving the grader, they are dumped into bins, each grade being kept to itself. Before packing, the figs are run through a dipper; here they are given a bath in a hot brine and are also subjected to a jet of steam. This heats the figs through, cleans and softens them and also kills any insect germs which may have been deposited on the fruit on the dry ground. The figs are then carried to the packing tables, and are taken in hand by women and girls, who supple and flatten them out, and split them open on the back from the eye to the stem. A small knife is used for this purpose. The figs are then placed in wooden forms, which are made to hold either one-half or a pound of fruit. Each form has five compartments. After leaving the packers' hands they go to the wrapping tables. Here the bricks are taken out of the forms and wrapped in parchmyne paper, which is held in place by a neatly lithographed band, wrapped around the package lengthwise. Ten of these packages are required to fill a box and figs packed in this manner are styled by the trade as bricks. The other method of handling is to pack them in paper boxes like those used for seeded raisins, each package being designated as cartons. During the height of the packing season from two hundred to three hundred men, women and girls are employed in the larger packing houses and the daily output is from three to four thousand ten pound boxes.

The Calimyrna Figs are packed in identically the same manner as the Adriatics, with the exception that they are merely steamed in a large wooden box, lined with galvanized iron. The fruit being of a higher grade requires more careful manipulation although the actual expense of processing is even less than for the common figs.

* * *

Benefited by Pruning.—There is a widespread fallacy that fig trees should never be pruned. A fig tree which is not growing thriftily is benefited by pruning; the bearing qualities of the tree are not impaired in the least and in addition to this, the figs are of better quality and very much larger.

* * *

A Great Future.—It is not my desire to take up the space in your valuable paper by any personal reference to myself relative to the Calimyrna fig. It is a fact, however, that many people in the very heart of the fig district of California are skeptieal even to this day as to the suceess of the Calimyrna fig. When the little fig wasp was established five years ago, had the owners of White Adriatic fig trees grafted their trees over to the Calimyrna, Fresno would today be shipping at least five hundred tons of these magnificent figs and would have established the reputation of being the great fig center of California. The insect is here to stay, its five years residence in California is evidence of that fact. The trees bear just as heavily as the White Adriatic, and simply beeause there are apparently not so many figs on the tree does not prove that the weight is not there when the figs are dried. From twenty-five to thirty per cent of the White Adriatie figs delivered at the packing houses are one crown goods not fit for packing, while in the Calimyrnas the average is less than five per cent.

* * *

A Profitable Industry.—California has the fig business in the palm of her hand and if the fruit growers can only be made to realize of what importanee and how profitable the industry will be to them if carried on along proper lines, they certainly cannot afford to plant anything but the best.—Geo. C. Roeding, Fresno.

* * *

The great work which Mr. Roeding has done in introducing the Blostophaga and in persistently staying by the fig industry until it is placed upon a better footing than ever before entitles him to greatest credit for his tireless work. As before noted in the Cultivator, the practical work of introducing the little wasp which has been the means of introducing the fertilizer pollen to the Smyna fig (which Mr. Roeding sells under the copyrighted name of Calimyrna) was the one thing needed to make the industry a success. To secure that, Mr. Roeding made a trip to Asia Minor and ultimately accomplished his purpose. He is to day the largest grower and shipper of those figs in the country and is succeeding in making a great name for his copyright brand, "Calimyrna."

UNITED.

English Rector (to parishioner)—"Good morning, Thompson; I hear you have a son and heir?"

Parishoner—"Yes, sir; our household now represents the United Kingdom."

Rector—"How so?"

Parishioner—"Why, you see, I am English, my wife's Irish, the nurse is Scotch, and the baby wails."—Harper's Weekly.

A TOAST TO THE FARMER.

Here's to the man who rises with the lark,
Early in the morn while still it is dark,
To furrow and plant, to protect and reap
On hills that are high and in valleys deep,
Though horny of hand and plainest of clothes,
Nature and nature's laws the best he knows.
The clear sparkling dew-drops on all the blades
Flirt with the morning sun's first kissing rays;
Nature's color, new and fresh o'er night
Man's own labor to aid and finish aright.
Blessed is he on his own acres broad,
To reap the harvests his own hands have wrought;
Content, what ere possessing, he best knows,
Who labors and waits in trust—God repose.

—Eugene J. Sharadin, Perry, Calif.

THE BEST IN THE WORLD

The California Limited Log-Book:

I have crossed the continent on every road. This is the most delightful trip I have ever made. My wife and myself regard this the best train in America, therefore the best in the world. Every wish cheerfully granted and our wants frequently anticipated. Train officials courteous and attentive.

DR. STEWART AND WIFE,
1037 W. 22nd St.
Los Angeles, Cal.

SANTA FE IS THE WAY

WE GUARANTEE THE
White Lily Washing Machine

To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL.

White Lily Washer Co.
1539 Rockingham Rd. DAVENPORT, IOWA

SHASTA ROUTE is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

$35.00 ROUND TRIP

Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

Queries and Suggestions

ROOF PAINT.

We have an inquiry from Santa Rosa for roof paint, which was given in the Cultivator some time ago, date of paper having been lost. We ask our subscriber to refer to the issue of June 23d, where a crude-oil-Prince's brown-metallic mixture is given and recommended as being an excellent and cheap roof paint.

CHICKENS DYING.

Inquirer from San Diego has communication regarding chickens dying off which has been answered by Mrs. Basley by mail.

BUFF WYANDOTTES.

Editor Cultivator: Please inform me where we can secure Buff Wyandotte eggs.—E. C., Riveria.

O. S. Hoffman of San Jacinto can supply you. We do not know of any others near Los Angeles, but if there are any other breeders of that variety they should have their announcement in the columns of the Cultivator.

YOUNG'S BOOK.

An inquirer in the Cultivator recently asked for address of publishers of Young's Book of Secrets. H. P. Underwood, of Holtville, writes us that he has one which he bought from H. J. Wehman, Park Row, New York.

ALFALFA NOT DOING WELL.

Editor Cultivator: I have an alfalfa pasture divided into checks fifty feet square, flooded by pumping once after each cutting. In almost all of these checks there is a spot which does not do well. Grows five or six inches high while the balance does finely. What is the trouble?—Arthur C. White, Stockton.

It is impossible to answer such a question without knowing more of the particulars. The fact that the alfalfa grows five or six inches high while the rest grows taller would look as if there had been some fault in laying the contours or leveling the surface so that the section in question may want for water. Or those particular spots may be underlaid with a coarse gravel permitting the irrigation water to leach away, there being sufficient to start the alfalfa but not to keep up the growth to the full height which it would naturally grow to. On the other hand, if the land is heavy and has probability of alkali, that might possibly be the trouble, although we think not. If it be the fault of the leveling, of course the remedy is apparent. If the fault of an underlying bed of gravel which leaches away the water, it would be impossible to control. If the soil is sandy and infertile, fertilize.

TROUBLES WITH TOMATOES.

Editor Cultivator:—Under separate cover, I herewith mail you tomato twigs and leaves. Will you kindly tell me through the columns of the Cultivator what is the matter with them? I have never seen tomato wilt and would like to know what it is like. They grew finely. But soon one plant and then another, got to look like these samples, and the blossoms drop. I am afraid the whole patch will become affected. Will you please tell us what to do for them, if there is any known remedy?—Mrs. John Gottenberg. Monticito.

Also, Mr. Laughlin, of Hesperia, reports his tomatoes, while apparently strong growing and healthy, suddenly turn yellow and die.

The vines sent by Mrs. G. plainly show "wilt," or tomato blight. Those of Mr. L. we cannot be so sure about, but imagine it a similar trouble. Probably in either case the early application of Bordeaux would have saved them. Diseased plants may now be too far gone, but the healthy ones near them may possibly yet be saved. The Bordeaux mixture is used by most tomato growers, whether there is any indication of disease or not, some working with spray pumps, others with sprinkling wagons and covering the whole field while the plants are young.

Owing to the general interest at this time we quote as follows from a bulletion of the Texas Experiment station:

Tomato Wilt.—The first intimation of the presence of this disease is the sudden wilting of the plant. The mysterious manner of attack and the feeling of helplessness experienced in the face of it causes the wilt especially to be dreaded by the grower. The disease, despite the awe it occasions, is not so serious as it seems, for though it "takes" and utterly destroys plants here and there, it rarely involves any considerable portion of the field, provided ordinary precautions are taken for its prevention.

The wilt is caused by bacteria, minute plants, which grow, multiply and flourish in the tissues of the tomato and so pack themselves into its cells that it becomes no longer possible for the sap to circulate freely, whereupon the leaf or plant collapses and the "wilt" results. The disease is spread from plant to plant largely by leaf-eating insects. These pests after eating diseased tissues carry the germs on their jaws to healthy plants, thus disseminating the contagion. The remedy naturally suggests itself, simply poison the leaf eating insects. This is readily accomplished by adding four ounces of Paris green or two pounds of arsenate of lead to every fifty gallons of Bordeaux, when you spray for the leaf spot. As a further precaution wilted plants should be pulled up at once and burned, and at the end of the season the old plants should be destroyed by fire. In case the wilt has been troublesome tomatoes should not be planted on the same field the following year, it being supposed that the germ lives over in the soil. Avoid exeessive nitrogen in the fertilizers used, as soft succulent plants are most easily affected by the disease.

The formula for the Bordeaux which has been given many times, is as follows:

Copper sulphate (bluestone) 5 pounds.
Fresh lime ..... 5 pounds.
Water ..... 50 gallons.

Dissolve the copper sulphate (bluestone) in a barrel containing ten or twelve gallons of water. Slack the quicklime and thin to a creamy whitewash. Pour the whitewash very slowly through a wire screen into the copper solution. Stir the mixture thoroughly, and add enough water to make fifty gallons in all, or better, pour lime and copper solution at the same time into the water, stirring hard during the pouring. Stir occasionally while applying to the trees.

In the preparation of the Bordeaux mixture it is necessary that the ingredients should be mixed in a wooden vessel. If an iron vat is used the copper will go to the iron and the effect of the spray is largely neutralized. Apply the remedy cold and as soon after it is prepared as possible. Never allow it to stand over night.

This may be applied by the ordinary hand spray pump or from a sprinkling pot, if a very small quantity or in any way to be sure that they touch nearly all parts of the plant. Apply to the healthy looking plants because they are probably the only ones that will be saved. Where the disease has already appeared, it is upon the inner tissues of the plant where it will never be reached by any fungicides.

PRUNING ACACIAS.

Editor Cultivator: We planted some acacias about seventeen months ago. They have grown to be about two inches in diameter at ground and some twelve to fifteen feet high. They are tied to stakes about four feet above the ground, but some of them are bent away by the wind above this. We are thinking of cutting them back in order to straighten them. Will it be best to do this and if so, when should it be done.—E. S.

It will perhaps be wise to top back the trees and if so would suggest that it be done immediately. This for the reason that the topping will probably force out a large number of side shoots which should have time to make their growth and harden before the cooler weather of winter. We take it your acacias are the Melanoxylon or black acacia, and not especially susceptible to frost, but if pruned later and if full of sap and succulent growth might be injured by such weather as might come. If they could be topped somewhat above the top of the stakes, for we note you say that they are tied four feet, we think it would be well, for street trees should really be branched higher than that in order that the later prunings may raise them above pedestrians' heads.

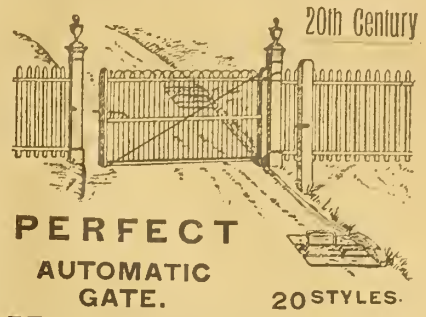
MAKING OLIVE OIL.

A inquirer from Highland wishes information as to the manufacture of olive oil. This will be treated in a separate article within the next week or two in the columns of the Cultivator, and while it is hardly probable that home manufacture of oil will ever be very profitable because of the fact that difficulty in making good oil without knowledge of the various details of the business will be a preventive of many entering into it, we hope, however, to give some hints which will be of value to our inquirer.

Also another inquirer wishes information regarding reclamation of alkali lands. This will also be touched upon later.

DYING TURKEYS.

A Ceres subscriber wishes information regarding turkeys dying in large numbers when nearly two-thirds grown. Mrs. Basley will answer more at length next week. Meantime, thoroughly disinfect, keep pure water before them and give each a liver pill.



PERFECT AUTOMATIC GATE. 20 STYLES.

Money Refunded If not satisfactory or as represented. ***Works 365 days each year. NO OILING***—ten minutes each year and 10 to 20 cents expense—***no more.***
Enclose 3c stamp for 68 page catalogue.

The Lloyd Co., Inc.
Petaluma. California

Half Rates
EAST

SALT LAKE ROUTE

One Fare Round Trip to New York, Chicago, St. Louis, Memphis, Kansas City, Omaha and all Eastern Points.

CHOICE OF ROUTES RETURNING

PORTLAND EXPOSITION—

$60.00 Round Trip, limit 90 days. Going via Salt Lake City and the famous Columbia River, returning via Shasta Route and San Francisco. Stopovers allowed.

$40.00 Round Trip, limit 21 days. Going and returning via Salt Lake City and Columbia River.

Personally Conducted Tours to Yellowstone Park, Portland Exposition and Alaska. Information gladly given at City Ticket Office, 250 South Spring Street, Los Angeles. Both Phones 25; First Street Station, Home 496, Main 4095.

When writing advertisers mention Cultivator.

RANCH FOR SALE
13 acres 12 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R D. 1 RIVERA, CAL.
When writing advertisers mention Cultivator.

For Sale, 30-Acre Alfalfa Ranch

Choice location. Good Stand.
Plenty of water; will divide it.

T. B. HIMROD, Owner POMONA, CALIFORNIA Home Phone 496
When writing advertisers mention Cultivator.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.
When writing advertisers mention Cultivator.

Blue Gums

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity

Geo. B. Warner, Santa Ana, Cal.
When writing advertisers mention Cultivator.

Have You Seen the Moline Cars?

The most beautiful family cars on the market.
Double opposed engine, side door entrance, $1,050.
Four cylinder, side door entrance touring car, $1,700.
Call and see them.

Wm. Gregory
602 N. Main St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

OUT IN THE FIELDS.

The little cares that fretted me,
I lost them yesterday
Among the fields above the sea,
Among the winds at play,
Among the lowing of the herds,
The rustling of the trees,
Among the singing of the birds,
The humming of the bees.

The foolish fears of what might happen—
I cast them all away
Among the clover-scented grass,
Among the newmown hay;
Among the husking of the corn
Where drowsy poppies nod,
Where ill thoughts die and good are born,
Out in the fields with God.
—Elizabeth Barrett Browning.

THE LAUGHALOT BOY.

The Laughalot boy is a gay little tad
Who lives in a gay little place
Where all the good people who meet him are glad
For just looking into his face.
And the birds that sing there from the dawn until night
Warble only such songs as give people delight—
Sing to add to the joy
Of the Laughalot boy,
Each with all of its glad little might.

Oh, the Laughalot boy always runs to obey,
And never is rude or unkind,
And only good people go smiling his way,
And woes never darken his mind;
The Laughalot boy is a gay little tad
Who has many more joys than the boys who are bad—
All the winds seem to go
As he wants them to blow,
And his laughing makes everything glad.

Concerning the Opposition

Confound the girl! Where on earth did she ever get such ideas? Have a cigar, Ted."

Theodore Lord lighted the proffered weed and smoked thoughtfully for several minutes.

"You have me there, Judge," he said at length. "Possibly from some of this latter day literature. It seems to me as if I had read something similar."

"Very possibly," said Judge Martin, frowning. "You say she thinks the affair too cut and dried?"

Lord smiled.

"She doesn't express herself in just those terms. She says everything is too obvious," said he.

Judge Martin snorted in disgust. "Too obvious! Too obvious! What in the world does she expect or want? I don't care if she is my daughter. Ted, I do think women folks nowadays get the wildest notions in their heads."

"She says," Lord continued, "it has been too glaringly apparent how everything would turn out. She can't remember the day, she claims, when it wasn't obvious that she would some day marry the nice little boy who lived across the street. She presumes, too, that it was just as obvious to the nice little boy that he would some day marry Judge Martin's daughter. Now, she says, it is obvious to everybody that we were made for each other. In fact, things have been so terribly obvious from the very beginning that she fears we don't know our own minds, and perhaps later we may find we have made a great mistake."

Judge Martin ran his fingers nervously through his bushy white hair.

"I always thought she was the most sensible girl in the world," said he.

"She is," said Lord quickly. "There may be reason in what she says."

"I know she thinks the world of you, no matter what she says," said the Judge stoutly.

"I've had the temerity to think that myself," said Lord, "and I've tried to think this state of mind is merely temporary with her."

He blew smoke rings thoughtfully.

"Perhaps if I went away this winter," he continued, "it might help matters. There's the trip to California, you know. I might take that."

"Nonsense!" the Judge exploded. "You can't leave your practice here. And you can't afford it, either. You'll need all your money for your house. The trouble is, Ted, this affair of yours has been altogether too smooth. It needs opposition to stir it into healthy life. I believe a little touch of romantic opposition would work wonders with Elizabeth."

"I'm inclined to think you're right," said Lord slowly.

The Judge brought his fist down on the library table with a bang.

"Confound it!" he said, his eyes twinkling. "I don't want you for a son-in-law. I've never thought of such a thing. Marry my daughter Elizabeth? Never, my presumptuous young friend. See the point, Teddy?"

Lord sprang to his feet.

"Judge," he said, "you're a thoroughbred.

The judge was evidently well pleased with himself.

"Somewhat better than California, I fancy," he drawled.

"Infinitely," the young man said with enthusiasm.

"Come around tomorrow at 3," said the Judge. "Elizabeth will be here then. Oh, I'll sit you beautifully. Take another cigar with you."

"Tomorrow at 3, then," said Lord, picking up his overcoat.

The Judge nodded and dropped one eyelid deliberately.

The following afternoon at 3 o'clock Theodore Lord and the Judge were again seated in the library. They looked nervously at each other, as conspirators have looked at each other for all time. They even grinned at each other a bit sheepishly.

"Hush!" said the Judge. "She will be coming down the stairs in a moment. When I speak loud you do it, too. There, that's her door now. She's coming." Then, with a sudden change of tone: "No, sir, I most assuredly do not propose to hand my daughter to you. It is the height of presumption to suppose that I would be willing to do any such thing. Never!" The Judge's voice quite shook with fury.

"I scarcely expected you to fly into a rage, sir, merely because I come to you and ask for your daughter's hand in honorable marriage."

"You didn't, eh?" The spasmodic anger of the Judge's voice was beautifully done.

"I confess I expected quite a different reception," said Lord.

"May I ask," said the Judge, hotly, "on what such expectation was based?"

"I thought you knew, sir," Lord said calmly, "of my honest affection for Elizabeth. I thought that would be very apparent, even to you. Indeed, your actions have led me to believe your consent would be freely given."

"Young man," sneered the Judge, "I like your nerve! Your supposition that I would give my consent for Elizabeth to marry a penniless young sawbones is quite on a par with your other mental process."

"I'll admit my practice and income are neither very amazing," said Lord with some heat, "but I think you'll find them sufficient to warrant the request I have made; besides which I have health and ambition and no intention to stagnate."

"Your practice and income, indeed; I like that. I've taken the trouble to find out a little about your practice and your income, which you're so free in alluding to, and all I have to say is that if you had as much of either of them as you have of amazing nerve you'd be the richest doctor in the county. But I prefer something a little better for my daughter than slow starvation. The upshot of the whole matter would be that you'd be coming home to me and I'd have to keep you both."

"What you say is insulting in the extreme," said Lord. "But I must remember that you are an old man and you are Elizabeth's father. Therefore I will pass your insults by. What I want to know is, Do you flatly refuse your consent?"

"How many times must I tell you so?" howled the Judge.

"Then it is only fair to you to say I shall try to win her affections without that consent," said Lord angrily.

"Do so, by all means," roared the Judge. "I can tell you now she doesn't care a snap of her fingers about you."

The portieres were flung violently apart and Elizabeth, white but with proudly lifted head and flashing eyes, stood before them.

"There you are mistaken," she said in a shaken voice, looking unflinchingly at her father.

For a moment there was silence; then the Judge turned to Lord.

"Leave the house," he bellowed.

"Father!" said Elizabeth.

"Leave the house before I throw you out," said the Judge.

Elizabeth walked over to Lord and put her hand in his.

"You may throw me out, too," she said quietly.

The Judge turned away, ostensibly to control his wrath.

"Keep the young idiot if you want him," he said, "I'm going to the club."

Late that evening Lord found the Judge in his favorite corner at the club. The Judge grinned as he came up.

"How about the opposition, eh? Have a cigar, Teddy."—Pittsburg Gazette.

A PERFECT LADY.

A little girl from a crowded tenement house was delightedly telling a friend in the College Settlement about her new teacher.

"She's a perfect lady, that's what she is," said the child.

"Huh! How do you know she's a perfect lady?" questioned her friend. "You've known her only two days."

"It's easy enough telling," was the indignant answer. "I know she's a perfect lady because she makes me feel polite all the time."—Selected.

He that follows nature is never out of his way. Nature is sometimes subdued, but seldom extinguished.—Bacon.

Work, work, work!
'Tis better to work than play—
'Tis better to do some little good
As we travel from day to day;
'Tis better to help some needy one
Than to idle our time away.

The best law—the golden rule.

ABOUT ANTS

Ants are plentiful at the mountains and seashore. Don't go camping without a bottle of K. A. P. It's invaluable. Sent prepaid, by express, only, 40 cents.

KELLOGG'S ANT PASTE CO.
1010 E. NINTH ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

HELP!

Settle Your Own Country

The Santa Fe

is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to

WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

Cookery Recipes

RECIPES.

Editor Cultivator: In a recent issue of the Cultivator I noticed a request for recipe for marshmallow cake filling and cucumber pickle, and I send "tried and not found wanting" recipes for both.

* * *

Cucumber Pickles.—Take only fresh, firm, unbruised cucumbers, wash carefully and pack in an earthen jar. We usually use a one or two gallon jar, because we only have a few vines. Put a handful of dairy salt to the gallon of "cukes" on top, then pour on boiling water until "cukes" are a little more than covered. Put on a saucer or small plate to hold fruit under, as any that stick out will soften. Let stand for 24 hours, then drain and recover with boiling water, Use no salt the second time and be sure to have water boiling hot as that is the secret. After another 24 hours, take fruit out and pack tightly into common one or two quart glass fruit jars. Have ready some boiling vinegar which may be spiced, if desired, and fill jar same as with fruit. Screw on cover and pickles will keep for one or two years.

* * *—

Marshmallow Cake Filling.—Put two tablespoons of good gelatin into one half cup of boiling water. When dissolved beat very stiff with two cups of powdered sugar. Flavor with vanilla or other flavoring as desired. Wet a shallow cake tin, same size as layers of cake, in cold water and spread mixture on smoothly and let stand over night. It is very easy to make and as most marshmallows that you buy are made of gelatin instead of gum arabic, you can have it just as good and know just what you are getting.—C. S., Fullerton.

Now, we assume the above is from a man. Besides the above initials, the name signed to the letter accompanying the above, was that of a man, and with no "Mrs." before it. In that case if he will come again we will be glad indeed to give the Cultivator sisters a little help, which will be appreciated, we feel sure. In fact Mr. "C. S." says: "I am not a professional cook, but I pride myself on being a good amateur and I am always looking for new dishes, and am always willing to give any body benefit of such small experience as I may have had. As I have tried several excellent recipes out of the Cultivator I thought I would try and get even."

Perhaps when the ladies see that the men are trying their recipes they will take more interest in this department and send in the "tried and not found wanting" ones. Come again, Mr. "C. S.", for while we know your recipes will not be "found wanting" the ladies will be—"found wanting"more of them. In fact it would be quite jolly if the men would post up and help out by cooking an occasional meal—say, a Sunday dinner. If this appeals to the "women folks," we'll take up a campaign of education and see if the men can be worked up to it. Usually, you know, the men are easily "worked," but whether we can fetch this can only be determined by trying. While waiting for the ladies to send in their wishes in the matter, we give below some crack-a-jacks on corn meal.

* * *

Indian Fruit Cake.—Take one-half cup of butter and one cup of brown sugar and moisten with half a pint of strong coffee; add one cup of New Orleans molasses, a teaspoon of allspice, one grated nutmeg and a teaspoon of powdered cinnamon, one well beaten egg and three cups of pastry flour sifted with a heaping teaspoon of baking powder and one cup of Indian meal. Beat steadily for ten minutes and then stir in a quarter of a pound of shredded citron, half a pound of large seeded raisins, cut in two, and one pound of currants. Turn into a round cake pan lined with greased paper and bake three-quarters of an hour in a slow oven. Ice while still warm with vanilla fondant frosting, decorating with tiny candied cherries and angelica cut in the form of small holly leaves.

* * *

Meal Timbales.—Two cups of corn meal cooked in slightly salted water for three-quarters of an hour, adding more water if necessary and boiling to the consistency of porridge. Pour into small timbale molds and set away to harden; when quite firm remove with a sharp spoon the center from each mold, leaving only a shell; unmold these, brush over with melted butter and crisp in a hot oven; then fill with any highly seasoned creamed or deviled preparation of meat, fish or game and serve inverted on a salpicon of mashed potato, garnished with sprigs of parsley and thinly sliced lemon.

* * *

Cornmeal Bannocks.—Take eight heaping tablespoons of meal and stir in two cups of boiling water; add four tablespoons of flour, a saltspoon of salt, one-fourth of a teaspoon of baking soda, two well beaten eggs and sufficient cold milk to form a thick batter. Beat for five minutes and drop in spoonfuls into hot fat, frying the bannocks to a golden brown. Serve with maple syrup.

* * *

Indian Griddlecakes.—Use boiling water to dissolve a teaspoon of baking soda, adding two cups of sour milk, a tablespoon of melted butter, a dash of grated nutmeg and a saltspoon of salt; then stir in equal parts of Indian meal and sifted graham flour, mixing until the batter is free from lumps. Have the griddle very hot and grease it lightly with a small piece of salt pork; pour the batter from a small pitcher in cakes of the desired size; when filled push the griddle to the back of the range, as the cakes should cook slowly.

* * *

Corn Gems.—Combine two cups of sweet milk, one well beaten egg, a pinch of salt, one tablespoon of brown sugar, a tablespoon of maple syrup, two tablespoons of melted butter, one cup of Indian meal and one cup of wheat flour sifted with a heaping teaspoon of baking powder. When very light stir in half a cup of finely chopped dates. Have ready hot gem pans, fill each about three-quarters full with the batter and bake thirty minutes in a moderate oven.

HEARD AT THE SEASIDE.

"As a high roller," remarked the wave boastfully, "you are not in it with me."

"For which you should be thankful," rejoined the beach.

"Because why?' queried the wave.

"Because," answered the beach, "you have me to fall back on when you go broke."—Chicago News.

HOMELY HINTS.

Cure for Burns and Scalds.—As burns and scalds are apt to occur at any time in any household it is necessary to keep on hand something with which to allay the pain and burning immediately and I would recommend (because knowing nothing better) an article which is always handy in almost every household, and that is a raw potato washed and peeled and grated. Apply the grated potato to the burn and bind it up. When that is dry apply more and I think you will agree with me that it is the handiest and quickest remedy as well as the most reliable cure.

* * *

To Purify the Sick-room Atmosphere.—Try burning eau-de-Cologne in a red-hot iron shovel when a sick-room becomes stuffy. It imparts a delightful fragrance which is very refreshing to the patient.

* * *

To clear the air of a room put a lump of camphor in a saucer and apply a very hot poker to it. This will cause very strong fumes which will cleanse the air speedily and act as a powerful disinfectant at the same time.

* * *

A hot water bath in which has been dissolved about two ounces of coarse salt, will cure tired, swollen feet.

* * *

The following recipe for cough medicine comes from a New England housewife, and was handed down to her from an old-time sea-captain: Blend one ounce of senna, one ounce of whole flaxseed, one ounce of crushed licorice and half an ounce of anise seed, and cook in boiling water (about three or four pints) until reduced to a quart. Strain, add one cupful of molasses and boil a few minutes longer. Then cool, and when cold add a little whisky or alcohol, to prevent fermentation. Keep the medicine in air-tight bottles. Use a teaspoonful or two when needed. This is effective for severe hacking colds and coughs.

THEY. DO THINGS DIFFERENTLY NOW.

Grandmama—When your grandpa was courting me he always kissed me upon the brow.

Granddaughter—If a man kissed me upon the brow I'd just call him down a little bit.—Smart Set.

THE TRAP DOOR SPIDER.

Interesting friends of ours entertainingly written about for Cultivator readers.

Since the trap-door or under-ground weavers are considered the most interesting of the hundreds of species of spiders, it is well for we Californians to have at least a speaking acquaintance with the ones living among us, and bearing our name.

While the Ctenize Californica is a distant relative of the dreaded turantula, let me say that this family and all other spiders have been grossly maligned. Some of the best authorities saying that no spider in this country is poisonous, and only in rare cases where the persons bitten is in peculiarly receptive condition, does any harm ever occur. Neither do they harm vegetation, but, rather, improve it by devouring myriads of injurious insects.

These little friends get their name from the fact that they have underground houses with doors that open and close, not back and forth like ours, but up and down. The trap-door is the front entrance and also the roof of the house.

I have been studying how to help you recognize this roof-door entrance when you see it, for it is not the intention of the big, hairy occupant that you should discover his abode. If you cut a "printing" D in the clay-like soil where they live and then walk over it until the cut is pretty well filled, it would look quite like the trap-door; that is, provided the straight part of the D is made a trifle shorter than usual.

The home of a full grown spider is about an inch in diameter, but these energetic little creatures do not wait until grown before going to live in houses of their own. Instead, they build small ones are soon as they are able to care for themselves, and enlarge them as they grow.

Having chosen a time when the earth is moist and a location where the soil hardens like clay when dry, the big black fellow begins to excavate a perfectly round hole straight downward, sometimes a foot deep, sometimes only two inches, and lines the walls of this circular room with a beautiful silken drapery called spider web.

5 BEAUTIFUL SEA SHELLS FOR 10c
Mrs. Susan M. Mohr, Lealman, Florida
When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.
When writing advertisers mention Cultivator.

Union Bank of Savings
RESOURCES $3,831,680.29
3% Interest Paid on Ordinary Deposits
4% Interest Paid on Term Deposits
Increase in Deposits since June 30th, 1904 $1,300,000.00.
Safe Deposit Boxes from $4 yearly up.
223 South Spring St. Los Angeles, Cal.

Next the roof is made by spinning a web across the top of the hole and placing small particles of earth on it, then more web is spun, more earth used, and so on until this pad-like top is about a quarter of an inch thick. when the builder cuts it loose all 'round. except about one-third of the way, which is left fast for a hinge; and the round roof has now become the D-shaped trap-door.

In cutting the top loose it is beveled inward so that the door fits into the orifice almost as closely as a stopper into a bottle.

The hinge is a very wonderful part of these most wonderful houses. It is made tntirely of the web, and is warranted to wear as long as the owner lives. It holds the trap-door down so tight that you cannot open it from the outside without danger of breaking the edge.

Human carpenters cannot make doors fit and swing more perfectly than do these highly developed insects. —Mary Suydam Peck, Los Angeles. August 1, 1905.

KEEPING CIDER SWEET.

Sweet cider so preserved that it has exactly the same flavor and sweetness that it had the day it was made last fall is on hand at the Oregon agricultural college, at Corvallis. Samples recently tested demonstrate the plan to be entirely successful and render it certain that an industry in cider bottling is likely to be the consequence. The method of treatment of the cider is to destroy the ferment germ by a temperature so low that it will not cook the apple fiber that may be in solution and also not destroy the natural flavor. For the purpose, a temperature of 160 degrees, secured by steam process, is applied. This is sufficient to destroy the vegetable cell, but not enough to kill the spores. Accordingly, twenty-four hours later, when the spores have developed into cells, the same heat is then applied. Twenty-four hours later, as a precaution, a third application of heat is made. Then the cider is corked up in bottles tightly enough to prevent the air from coming in contact, and the bottles are laid away. Such bottles opened recently contained cider as sweet and wholesome as ever came from a press. The feature of the process is that by reason of the simple method of treatment, anybody can preserve the beverage for future use at a very trifling expense.—N. W. Horticulturist.

BREAKING A HABIT.

How shall I a habit break?
As you did that habit make.
As you gathered you must lose;
As you yielded, now refuse.

Thread by thread, the strands we twist
Till they bind us neck and wrist;
Thread by thread, the patient hand
Must entwine ere free we stand.

As we builded, stone by stone,
We must toil, unhelped, alone,
Till the wall is overthrown.

PERFECTLY CLEAR.

Visiting Tourist (to rural inhabitant)—"Are you a native of this place?"

Inhabitant—"Am I a what?"

Tourist—"Are you a native?"

Inhabitant's wife (appearing on the scene)—"Ain't ye got no sense, Rube? He means, wuz ye livin' here when ye wuz born, or wuz ye born before ye began livin' here?"—Harper's Weekly.

The best education—self-knowledge.

Los Angeles Markets.

Los Angeles, August 9, 1905.

Butter.

Butter stands at same quotations as last week, with market very firm.

B. of T. Creamery 57½
Valley Creamery, fancy ..... 55@57½
Coast Creamery ..... 47½@50
Fancy Dairy ..... 45½@47½
Cooking, per lb ..... 17@18

Cheese.

Cal. 3-lb. hand 15¼
Cal. Young America 14¼
California Anchor 13¼
Northern ..... 12½@13
Eastern 16
Domestic Swiss 16½
Imported do 27½

Eggs.

Eggs are still higher, though the demand is very light. The receipts have decreased to that extent that the demand rather exceeds the present supply.

Eggs, fresh ranch 29
Eastern and Storage 26
Seconds 21

Poultry.

Poultry is a shade weaker than last week, showing as a general thing a cent or a cent and a half decline.

Fryers, 2½ lbs ..... 12½@14
Broilers, under 2 lbs, per lb ..... 12@14
Young Roosters, per lb 12
Hens, per lb 11½
Ducks, per lb 9
Turkeys, per lb ..... 16@18
Geese ..... 9@10

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt..... 6.00
Prime Steers, cwt 4.00
Cows, cwt 3.00
Calves, cwt 4.75
Sheep, ewes, per head 3.50
Lambs, do 3.00
Wethers, per head 4.00

Potatoes.

Potatoes are rather firmer though showing but slight increase in quotations.

Northern, per ctl 1.25
Locals, per ctl..... 50@1.20
Sweets, white, per cwt 2.00
Sweets, new yellow 3.00

Vegetables.

Onions, yellow, per cental....85@1.00
Onions, Silver Skins 75
Beets, per 100 lbs 75
Cabbage, per sack ..... 35@50
Parsnips, per sack ..... 60@65
Bell Peppers ..... 3@4
Cucumbers, per crate ..... 20@30
String Beans ..... 1½@2
Wax Beans ..... 2@2½
Green Onions, doz bunches....20@25
Carrots, doz. bunches ..... 25@30
Turnips, doz. bunches ..... 25@35
Garlic 20
Peas, per lb ..... 5@6
Rhubarb, per lb 04
Egg Plant 3½
Chili Peppers, green ..... 3@4
Chili Peppers, dry 15
Tomatoes, local ..... 30@50
Asparagus ..... 8½@10
Parsley, per doz bunches..... 30@40
Summer Squash, per bx 20 lbs 10@25
Green Corn, per sack ..... 50@1.00
Lima Beans 3

Citrus Fruits.

Valencias ..... 2.00@5.00
Lemons, standard ..... 1.00@1.25
Lemons, fancy ..... 2.00@2.50
Grapefruit ..... 75@1.00
Grapefruit, seedless ..... 1.25@2.00

Fresh Fruits.

There is no particular feature in the fresh fruit market save that nearly all berries have strengthened in price, apricots practically disappeared; melons declined; apples, nectarines, etc. remaining practically stationary.

Strawberries ..... 4@6
Blackberries ..... 5@6
Logan Berries ..... 5@5
Apricots, per bx., nominal
Peaches, per box ..... 50@75
Nectarines 65
Plums ..... 60@1.25
Figs, per box ..... 50@75
Grapes, Thompson's Seedless 50@75
4-Tier Alexanders 1.25
Muskmelons, ponies ..... 50@1.00
Do, large crates ..... 1.50@1.75
Watermelons, per lb..... ½@¾

Beans, Dried.

Limas 4.50
Pinks, fancy ..... 3.65@3.75
Pinks, rain damaged ..... 2.50@3.00
Lady Washington ..... 2.75@2.85
Small Whites ..... 3.15@3.35
Black Eyes ..... 2.50@2.75

Nuts

Almonds, paper shell ..... 18@20
Almonds, soft shell ..... 18@20
Peanuts, California ..... 5@6
Peanuts, Eastern ..... 7½@9
Walnuts, No. 1 softshells ..... 14@15
Walnuts, hardshells ..... 10@12

Honey.

Honey, comb, frames ..... 10@15
White strained, per lb ..... 5@5½
Amber ..... 4@5
Beeswax ..... 23@25

Hay.

Barley, new ..... $7@9
Alfalfa, local new ..... $10@11.50
Alfalfa, no thorn ..... 10@11.50
Wheat, new ..... 10.00@11.00
Tame Oat, new ..... $11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ..... 1.50@1.55
Barley ..... $1.00@1.02½
Corn ..... 1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.10
Bran $1.20
Feed Corn Meal $1.60
Middlings $1.35
Cracked Corn $1.55
Corn $1.50
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

San Francisco, August 9, 1905.

DAIRY.

Butter is none too plentiful in the market and rules very firm, choice stock commanding top quotations. Some sales are even reported one-half to one cent in advance of quotations. Cheaper sorts of butter are in more liberal supply, with some difficulty in getting full quotations.

BUTTER—Per lb:

Creamery, fancy 24	
Creamery, good to choice .22	@23
Dairy, choice 20	@21
Store 17	@18

CHEESE—Per lb:

Cal. Creamery, mild new, ex.11	
Do, choice 9	@10
Young American 12	@13
Eastern, N. Y., Cream 17	@18

EGGS.

Eggs are much firmer, top quotations being the rule with offerings very moderate. Cheaper grades are more plentiful, with sales slower.

EGGS—Per doz:

Ranch, selected large 31	@32
Ranch, good to fancy 27½	@30
Store 18	@23
Eastern, extra 23	@24
Eastern, firsts 19	@21
Eastern, seconds 17	@18

POULTRY.

Poultry is arriving quite freely from local points, though prices are maintained, turkeys commanding one to two cents above quotations.

POULTRY—Old Roosters, per doz., $4.50@5.00; young Roosters, $4.50@6; Fryers, $3@4.00; Broilers, $2@2.50; Hens, small, $4@5; large, $5.50@6; Live Turkeys, per lb., 18@20c; Spring Turkeys, 23@25c; Ducks, old, $3.50@4; young, $4@4.50; Geese, per pair, $1.50; Goslings, $1.50@1.75; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@1.75.

FRESH FRUITS.

Apples, per box, fancy, 85c@$1.25; common to choice, 40@75c; Crab Apples, per box, 75c@$1.75.

Figs—Per box, Black, $1@1.50, as to size of package; White, 75c@$1.

Pears—Per box, Bartlett, 75c@$1.50; bulk, per ton, nominal; other varieties, per box, 50c@$1.

Peaches—Per box, 35@50c; carriers 50@75c; open boxes, 30@75c; bulk, per ton, nominal.

Plums and Prunes—Per small box or crate, 50@85c, as to variety; open boxes, 35c@$1; bulk, per ton, nominal.

Nectarines—Per crate or box, 50@85c.

Quinces—Per box, 65@85c.

Grapes—Per box or crate, Seedless, 85c@$1; Fountainbleau and Sweetwater, 60@85c; Muscats, 75c@$1.25; Blacks, 75c@$1.

Cantaloupes—Per crate, River, 75c@$1.50; Watermelons, per doz., $1@3; Nutmeg Melons, 35@75c.

Blackberries—Per chest, $1.50@3.

Raspberries—Per chest, $6@9.

Strawberries—Per chest, Longworths, $4@6; large varieties, $2.50@$5.

Huckleberries—Per lb., 7@8c.

VEGETABLES.

VEGETABLES—Tomatoes, per box, 25@40c; Green Peppers, per box, Chile, 65c@$1; do, Bell, 85c@$1.25; Okra, per box, 75c@$1; Garden Beans, per lb., Green, 6@7c; do, Wax, 6@7c; Lima, 6@8c; Garden Peas, per lb., 3

@4c; Cucumbers, per box, 25@40c; Summer Squash, per box, 25@40c; Egg Plant, per box, $1@1.25; Garlic, per lb., 4@5c; Green Corn, per sk, $1@1.75; per crate, $1.50@2.25.

POTATOES—Per ctl: River Burbanks, 40@65c; Salinas Burbanks, 85c @$1; Early Rose, nominal; Garnet Chile, 40@50c; Sweet Potatoes, per lb., 2@3c.

ONIONS—Per sk., Yellow, 75c@$1

DRIED FRUITS.

There is the keenest of interest in the dried fruit market, prunes especially holding foremost place. Growers are very strong in their demands. Peaches are also in high favor and spot cash sales are already being made.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, are, per lb., as follows:

Peaches—1905 crop—Crawford, fancy, 7@8c; choice, 6¾@7¼c; standard, 6½@6¾c; Muirs, fancy, 8¼@8½c; choice, 7@7¾c; standard, 6½@6¾c.

Prunes, 1905 crop—Sack basis, f. o. b.: For boxed goods add ¼@½c; 3½@3¾c basis for Santa Clara; other sections ¼c less; old crop, 2¾@3c.

Apricots, 1905 crop—Royal, fancy, 7¾@8c; choice, 6¼@7c; standard, 5¾@6c; Moorpark, nominal.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded, 3½c.

HONEY AND BEESWAX.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

HOPS.

The price of desirable stock is nominal at 24@27½c per lb, according to quality, many producers demanding thirty cents.

BEANS AND SEEDS.

BEANS—Prices per ctl. for sound selections; Large White, $2.75@2.90; small do, $3.50@3.75; Pea, $3.25; Limas, $5.50@5.75; Red, $6.50@8; Pink, fancy, $3.65@3.90; recleaned, ordinary to choice, $2@2.50; Bayos, $4@4.50; Blackeyes, $3@3.25; Red Kidneys, $4@4.50; Rain damaged lots of all descriptions offering from 50c@$2 a ctl below foregoing figures, according to condition.

LIVE STOCK.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@5½c; rough heavy, 4¼@4½c; common, 3½@4c.

HAY AND FEEDSTUFFS.

HAY—Per ton: Wheat, $9@13.50; Wheat and Oat, $8.50@12.50; Oat, $7.50@11.50; Barley, $7@9; Clover, $7@10; Alfalfa, $6@10; Stock, $5.50@7.50.

New crop Wheat, $9@13.50; Oat, $5.50@11; Wheat and Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $21.50 @22.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@28.50.

FLOUR AND CEREALS.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70 @4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.35@$1.42½ for new crop; old higher; White Milling, good to choice, $1.45@1.55 for new and $1.60@1.65 for old.

BARLEY—Choice, No. 1 Feed, $1@1.05; some fancy up to $1.06¼; off grades, 97½@98¾c; Shipping and Brewing, $1.05@1.10; Chevalier, $1.10 @1.25.

OATS—Good to choice, White nominal; Red, $1.17½@1.35 for new crop; Black, nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small do, $1.55@1.62½; White, $1.37½ @1.42½; Eastern, Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.40.

RYE—Good to choice, per ctl., nominal; new, $1.47½@1.50.

CITRUS MARKETS

The few oranges now going forward are commanding record breaking prices. Even the auctions are commanding $1800 to $2000 per car. Valencias are practically the entire offering, though a few Sweets have been forwarded during the week. The Valencias are found to be excellent keepers and are in strong demand with retailers. It is questioned, however, as to capacity of market to absorb large offerings at this period of the year.

Lemons maintain a strong market, affected, in part, by the close, warm weather. Prices of $3 to $6.50 have been commanded by every offering. Nearly all foreigns are picked up at eastern points, and even there have not depressed prices The California lemon is a strong favorite over the imported in many markets.

NEW YORK.

Last week's orange sales showed the highest prices of any week during the entire citrus season. The coming week, or this present week, rather, promises a much larger showing than that. There was an exceedingly small supply of fruit in the market, quickly picked up at top quotations. California deciduous fruits are not as plentiful as heretofore which may have something to do with the exceedingly high prices which are obtaining in the citrus market. Eastern grown fruit, and especially peaches, will soon be much scarcer; in fact, are now limited, apples and pears being the principal deciduous fruits.

Monday's sale took four cars, principally Valencias. Market was very strong. Weather favorable. Fancy Valencias brought from 4.70 to 6.30 while choice sold at 4.25 to 4.35. Grape fruit was exceptionally strong, extra choice California selling at 5.40. California lemons very strong, holding close to the 5.00 mark.

At Tuesday's auction five cars were sold. Market remaining strong, especially on first-class fruit. Weather pleasant. Valencias, fancys, brought 5.00 to 6.20, choice, 4.00 to 5.50. A few sweets sold close to 4.00; lemons maintaining the 5.00 mark. At Tuesday's sale, the banner sale of the season was on a $2082.80 car, being of Old Mission Valencias. Demand for Valencias is almost phenomenal this year.

At Wednesday's auction there were only two cars offered, one of Valencias and the other of lemons. Prices of both maintained high average with no prospect of decline. The highest grade Valencias commanded an average of $6.20 per box, extra choice bringing about $4.50. Lemons held close to the $5 mark.

There were 20,000 boxes of Sicily lemons of good stock, which commanded high prices.

BOSTON.

Only one car offered on Monday, fancy Valencias, and brought close to $5.00 a box. Market steady. Weather very hot.

Also on Tuesday one car. These were choice Valencias, and realized almost as much as the fancys of the day prior. Market steady and light quantities being offered.

One car Valencias, one car lemons sold on Wednesday. Weather hot and close. Market firm. Valencias brought from $4 to $4.50; lemons close to the $5.25 mark.

PHILADELPHIA.

Four cars sold on Monday. Market generally steady with a very strong advance on lemons. Fancy Valencias ranged at about 4.15 while some choice brought from 3.75 to 4.00. Lemons sold at 5.50 to 6.00.

Wednesday's sale consisted entirely of lemons, two cars being offered, standards bringing $4 and above, while extra choice, showing considerable decay, brought about the same price.

* * *

CITRUS SHIPMENTS.

Total shipments since November 1, 28,464, of which 2635 were lemons.

IRRIGATION A NATIONAL BENEFIT

There is no longer any issue as to the question of irrigation. It is universally admitted that there is no more imperative duty on the part of the government than that of reclaiming, for the benefit of all the people, those portions of the public domain which are arid and at this time unfit for cultivation. That is now being done and in a way that insures the best possible results not only for the regions immediately interested, but as well for the country at large. In other words the progress of irrigation means benefit for the whole country.—Bee, Omaha, Neb.

HOW TO KEEP COMB HONEY.

The graulating of honey in the comb makes it more unsalable than almost anything else that can happen to it which does not destroy the comb. Owing to this, comb honey should always be kept in a warm, dry place. It may be stored through the winter in a dry basement room or cellar, provided no frost reaches those apartments; but if there is a sudden rise of temperature outside much above that inside, moisture is liable to gather and stand in drops on the combs, in which case the honey will rapidly deterioriate. The only sure way of preserving comb honey so that it will present a salable form, is to store it in rooms so constructed that the temperature there will remain between seventy and ninety degrees and never go below sixty degrees.

When your butter-maker insists that the cream be delivered in good condition, he is doing the right thing, it is more to the benefit of the farmer than any one else, his requests should be heeded and promptly complied with. Sour cream does not test as well as sweet cream, the product made from very sour cream turns rancid much quicker than when it has the proper acidity, and causes the butter to sell at reduced prices.

IN WOMAN'S BREAST

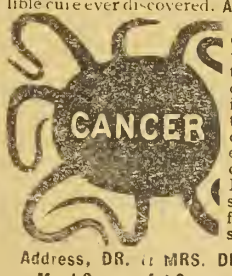
ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.



Best book on cancers ever printed, sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.

Please Send to Some One with Cancer

Santa Fe

Back East Excursions

ROUND TRIP TICKETS TO

Chicago	$ 72 50
St. Louis	67 50
Memphis	67 50
New Orleans	67 50
Kansas City	60 00
Omaha	60 00
St. Paul	70 00
Minneapolis	70 00
Duluth	72 50
Fort Worth	60 00
New York	108 50
Boston	109 50
Philadelphia	107 50
Baltimore	107 00
Washington D. C.	107.00

ON SALE
August 15-16-24-25.
September 7 8-9-10-11-16-17.
Good for 90 days.

DENVER AND RETURN, $55.00
ON SALE
August 10-11-12-30-31.
Good for 40 days.

These tickets are all honored on
The California Limited

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS

THE WESTERN

BEST STRONGEST SIMPLEST
MOST SUCCESSFUL
ANY SIZE PLANT FROM 5 TO 500 H. P.
CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

NATIONAL WOOD PIPE CO.

WOOD PIPE
WOOOWARO PATENT MACHINE BANOEO PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOO WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY
PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

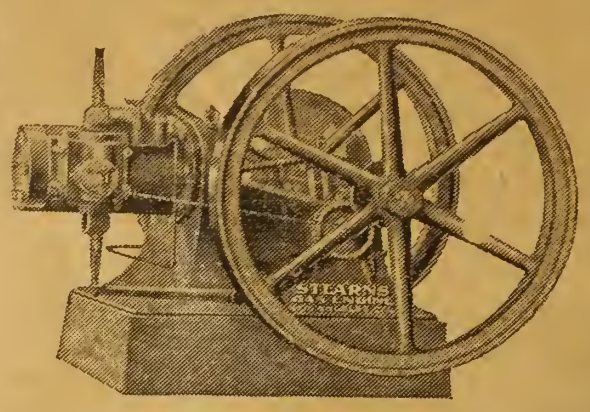
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

Simplicity HOME MANUFACTURE Economy



A first-class home-manufactured Gas Engine which is proving a winner. The mechanism on intake valves allows spring to lengthen and valve to work easier and take a larger charge when needed.

A new idea—another step in advance—is the sparker which operates only when necessary to explode the gas and gives same length of time in contact whether early or late spark.

WRITE FOR CATALOGUE AND INFORMATION

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth

To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.
2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

California Cultivator

LOS ANGELES SAN FRANCISCO

AUGUST 18, 1905

WHERE ALFALFA PRODUCES FROM THREE TO NINE CROPS A YEAR.

The comparatively new forage crop, in the United States, alfalfa, is probably at its best in portions of California. Where soil conditions are right and where plenty of water for irrigation can be obtained, the crops are astonishing. Alfalfa, irrigation and high-grade dairy cows are particularly profitable in Southern California, and in the great San Joaquin valley they are causing the vast wheat fields to be cut up into small farms for the large number of settlers coming from the East.

CIRCULATION EXCEEDING 10,500

THE MAKING of a SUCCESSFUL POULTRY FEED

Part view of the manufacturing department where Coulson's Egg Food and Coulson's Chick Food are made. Notice solid stone floor. See the men at work bringing the different feeds and ingredients to the mixing machine. Thousands of sacks are handled daily. There is one pile containing over a thousand sacks of Armour's Meat Meal. Another pile of sacks of fine ground Bone Meal. Another pile of three thousand sacks of shorts. Another of fifteen hundred sacks of flour middlings. In another place you will notice a carload of Armour's Dried Blood. In another, eight hundred sacks of fine ground beef scraps. In another pile a carload of ground oats, and in another a stack of two cars of granulated corn meal, and back in the corner sixty thousand pounds of Minnesota Millet Seed, car lots of Cracked Rice, steel cut Oat Meal, different seeds, etc. There are tons of charred bone Charcoal, and barrels of powdered Willow Charcoal, and big stacks of many other ingredients.

OUR SPECIALTY—MAKING GOOD FEED.

John D. Rockefeller's specialty is oil, Andrew Carnegie's, steel; Senator Clark's mining. These men were and are specialists. They organized themselves to excel, just as we have organized ourselves to excel in the manufacture of the BEST FEED for POULTRY. It is the one thing we think of, dream of, and talk of. When a man's heart is set on his task, he does it better than the "don't care fellow."

We do not and will not employ any one who is not interested in their work, consequently we repeat to you that we make GOOD FEED FOR POULTRY, (none better but lots that are worse, we assure you.) Making GOOD FEED for poultry is our specialty, and we have got it down to perfection. We manufacture a feed that will make your hens lay, as you never dreamed of before. Not only is the feed good to make hens lay, but it helps the fowls and it also gives them richer blood and keeps them in healthier conditions.

Being specialists in the line of mixed poultry feed, we can give you the best feed at the lowest prices.

All fowls over two months old, pullets and laying hens should have one meal a day of Coulson's Egg Food as a warm mash. Feed it for one year and see what there is in it.

It takes several weeks to show any great gain in egg production on any change of feed. Many poultrymen have tried Coulson's Egg Food for a while there are hundreds and even few days and given it up as a failure, thousands of poultry keepers who have fed Coulson's Egg Food for over a year's time and have made the greatest of success, and who feed Coulson's Egg Food every day to their hens, and every day they get plenty of eggs.

TWO HUNDRED HORSE-POWER ENGINE.

That runs the machinery which grinds up the bones for making fine ground bone meal, and pulverizes the charred bones for making Bone Charcoal. Etc.

These ingredients are used in making Coulson's Egg Food (a mixed food for pullets and laying hens) and Coulson's Chick Food, which are mixed by machinery and mixed properly.

The healthiest looking fowls, with bright red combs, are those that are fed on Coulson's Egg Food.

TRY IT FOR ONE YEAR.

Experience, backed by the general law of average, proves that feeding any change of food for the first week or two doesn't bring results. A trial of a SACK OR TWO is a waste of money. If you GO IN, stay in, and it WILL PAY YOU. "Keeping everlastingly at it" is the ONLY WAY TO SUCCESS.

MR. POULTRYMAN, there is only one way to buy, and that is on record of WHAT YOU WANT. If you want to make a good record, buy good feed. Character is a man's record. So it is with feed. Buy on character. When you buy Coulson's poultry foods you buy on character, and get a standard article of feed that contains only the best and wholesome ingredients.

Rumsey, Cal., Dec. 15, 1904.

This is the first season I have used Coulson's Egg Food and I find it excellent for the purpose. Since feeding it I have had more than double the number of eggs that I ever have had before from the same number of hens.

Yours truly,

A. A. HENRY, Rumsey, Cal.

The Coulson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 7 LOS ANGELES, CAL., FRIDAY, AUGUST 18, 1905 Subscription $1 a Year

Hints on Home Manufacture of Olive Oil

While Home Extraction is Not Recommended, Yet Under Proper Conditions and Absolute Purity, It May Prove Successful

As was noted in last week's Cultivator, request is in hand for information regarding the home manufacture of olive oil, the inquirer having supply of olives, too far from any olive mill and being unable to consume all the product put up as pickles. This is a matter which would be hard to treat, at least to the extent of giving explicit instructions as to each detail of the work. Manufacture of a good grade of olive oil is one requiring some considerable machinery and is a process of many details, covering quite a period of time. However, it has been done in a small way and where the grower of the olive goes into it with determination and gets some little practical information in advance, he may succeed in making a good grade of oil. As the creamery has largely taken the market from the dairyman and enabled a higher price and a more regular price to be commanded for butter, so the manufacture of olive oil requires a degree of expense and completeness of outfit which the small manufacturer can not always command. However, for home use, or possibly for select customers where one may be able to guarantee absolute purity of the article and secure a good price for his output, it may possibly prove attractive to make, in a small way, a good grade of olive oil.

The State Horticultural Commission has issued one bulletin which gives quite an extended description of method of manufacturing oil, as has also the State University, which has issued several bulletins. These give much more explicit information than is possible in a short article of this kind and the most we can do will be to give a few general hints.

Of course, still better than any outline of the process which we can give and the perusal of the bulletins recommended will be a personal inspection of some small mill. There are some small mills constructed for use in limited manufacture, also presses. In fact, some oil manufacturers have devised their own crude and, at the same time, fairly effective presses for pressing the oil and water from the pulp. But unless one has considerable ingenuity, of course this would not prove very attractive. We give on this page illustrations of effective mill and press built on small scale.

The crushing in a commercial way is usually accomplished by two large steel rollers rolling around in a steel pan, crushing either the pulp from the stones or crushing pulp and stones together. Some manufacturers prefer the oil which comes from the pulp only, claiming that the pit has an exceedingly small content of oil which gives a lower grade of oil, much more liable to turn rancid. This is disputed by others, however, and it may be said that the highest honors at the St. Louis exposition were taken by an oil made from both crushed pits and pulp. So we do not think it a material point as to whether you provide means for crushing both pulp and stones or removing the stones and crushing the pulp only.

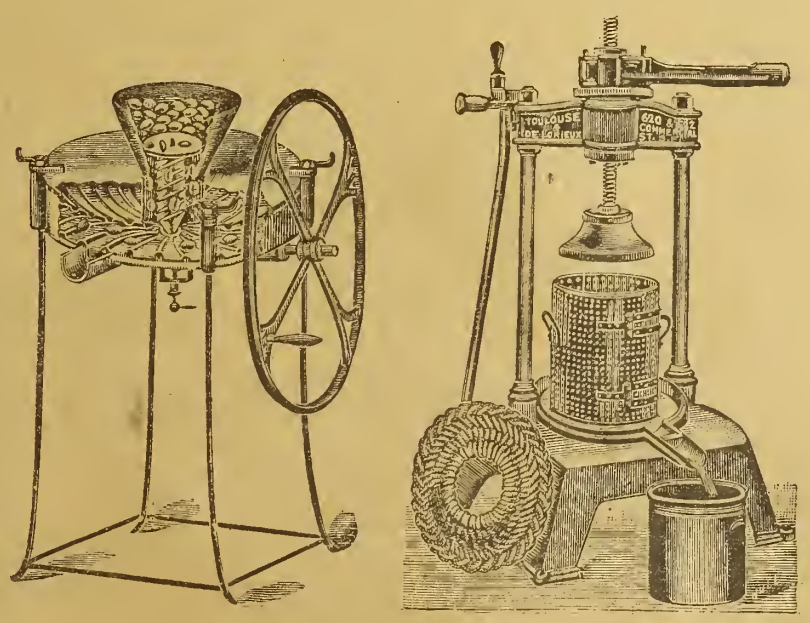
From the crusher, the pulp is taken directly to the press where various appliances, such as grass mats or bags and perforated plates to hold the pulp while the pressure is being applied are usually used. The pressure from the screw, or hydraulic press, as the case may be, should be very gradually increased, some going to the extent of separating the very first pressing from the later pressing, claiming it produces much the finer oil. However, usually the entire amount is pressed from the pulp or at least as much as possible. Sometimes the pulp is retreated and pressed a second and even the third time. These, however, produce an inferior oil. From the press the liquid, which consists of the fruit juices mixed with oil and particles of pulp, is placed in the receiver where it is allowed to remain a few days, when the oil, like cream rising on the milk, rises to the surface, leaving the sediment and water underneath. This oil is further purified and clarified by filtration through either the regular circular filtering paper or through absorbent cotton. Regarding the matter of filtration, we may quote from Bulletin No. 158 of the University Experiment station, to which we have referred.

"It is not at all essential to filter oil in order to obtain a perfectly clear and bright product. The writer has seen unfiltered California olive oil which had been bottled ten years and was still as bright as when first put up. The essential element in obtaining such oil is time in which to obtain a perfect racking. If sufficient time is not allowed a sediment will certainly settle in the bottle, which will as certainly spoil the market value of the oil. While the separation of this sediment, or the separation of the solid fats, is not a sign of an impure oil, yet either is fatal to the market qualities of the oil."

The one great essential in the entire process may be said to be absolute cleanliness, and protection of the oil from any odors or from any contamination which will affect its flavor and, still more, its keeping qualities.

The condition in which the fruit should be when it is picked is a question of some little difference of opinion. It should, of course, have lost its green color and turned the purplish or dark shade but as a rule manufacturers prefer that it should not completely ripen, or at least wilt on the tree. Notwithstanding this, we have seen mills using olives which were picked from the trees as late as February which had passed through some quite severe weather, frost having wilted the fruit very generally and it is claimed that oil from this fruit was of almost as good flavor as that made from the earlier picking in the fall. Most manufacturers prefer the partial drying of the fruit after it is picked from the trees, leaving on trays for several days, thus compelling loss of much of the moisture, consequently slightly more economical handling. But others claim finer grade of oil can be made with fresh fruit direct from the trees. In any case the fruit must not be allowed to mould or taint in the least, or the best grade of oil cannot be the result.

One great trouble with the manufacture of olive oil in this country is the great cost of manufacture, for, as it is claimed, unless the grower can receive at least $20 per ton over and above the cost of picking, he can not continue to grow the fruit. At that price, with the manufacturer compelled to make quite extensive investments in machinery and appliances, there is almost no profit where he has to compete with the prices at which the importers sell their oil. However, as we noted, it is to be regreted, for this country imports nearly two and a half million dollars worth or oil, annually, while California produces slightly above $150,000 worth so that it is plain the field is here if by some means of central mills or cheaper methods, the manufacture can be so cheapened as to place the oil in market in competition with that of European manufacture. The question of quality has never been raised for in that respect California has competed with the world and almost invariably proved the winner.



OLIVE CRUSHER AND PRESS
For small or Home Manufacture of Olive Oil

Forty thousand dollars is to be expended within the next three months in protecting the banks of the Eel river from the floods of winter. The work will be paid for from funds voted by the last legislature and private donations of Eel river farmers and dairymen.

California Horticulturally

By John Isaac, Sacramento, Cal.

"ANTIS" AS CHECKS FOR DISEASES.

A Stockton horticulturist, in an interview in the Mail of that city, advances the theory that all pests and diseases in the vegetable world can be counteracted by what he describes as "antis." Or, in other words, by their opposites or enemies. There is no question as to the correctness of this theory, and it is upon it that the State Board of Horticulture has operated so many years and with such marked success. Its operations have been confined to finding the "antis" in the insect world and they have been found to such an extent that we have very few serious insect pests which have not their natural enemy to keep them in check. The one great law of the natural world is that no species shall become redundant. If it did, it would soon crowd all others off the earth, and retrogression, decay and death would follow. So, in order that we may progress, we have to meet and overcome our opposites, and life from the lowest to the highest becomes a continuous struggle. This is equally true of the vegetable world. Now, when any species is introduced into a new locality without its natural enemy, or check, there is great danger to be apprehended from it, and this danger will continue until its natural check has been introduced, or some other adapts its taste to it. This we know is true of insects, and it is unquestionably true of such diseases as the pear blight, walnut blight, and others, which we know as bacterial diseases. Much attention has been devoted by scientists to discovering checks for bacterial diseases of mankind, and in many cases their checks, or "antis," as this correspondent terms them, have been discovered. Now, on this theory, it is easy enough to check any of the more serious of our tree diseases; all that we have to do is to discover their "antis;" that's all.

* * *

SILK CULTURE IN SYRIA.

We have lately received from a gentleman in Syria a letter in regard to silk culture in that country, and as much attention is now being paid to this industry in our State, a comparison of conditions between it and Syria, where sericulture has been the chief industry for ages, may be of interest:

"Syria and California are very much alike in the matter of climate and agricultural and horticultural products. Our chief productions are the olive, the mulberry and the grape. Our methods of cultivation are different to those of California. We graft our trees as you do, but generally prefer budding. At the present time the chief products o fthis country are olives and silk. Mulberry trees are very abundant, especially in this district (Ebil, Syria), and Mount Lebanon. I desire in writing this letter to get some information in regard to California methods in raising silk worms, as the process here is a very tedious one, taking very much time and requiring a great deal of labor, while the whole harvest of cocoons is often lost either from neglect or disease, or worms of poor quality are produced.

The Syrian people, especially the more wealthy classes, pay a great deal of attention to the cultivation of the mulberry, and a great many new orchards have been planted in irrigated lands. Owing to this, there has been a greatly increased output of mulberry leaves and prices have materially declined and silk cocoons have also been declining for the same cause.

There are several varieties of mulberry trees in this country, the most popular of which are comprised in six varieties, three of them fertile trees, bearing white, red and black berries. The other three are grown wholly for their leaves, which are used for feeding the worms. The leaves of these trees are very large and thick.

Mulberry trees attain a great age in this country, especially in the vicinity of Aleppo. The fruit in many sections is very sweet and is used by the natives for drying."

* * *

TREES IN THE CAPITOL PARK.

Miss Alice Eastwood, botanist for the Academy of Sciences, has now completed the work of classifying, naming and labeling the trees in the Capitol Park at Sacramento, a greatly needed work well done. There are here over two hundred different species, very many foreign varieties and many of them of tropical nativity. These trees, many of them strange, have been a great attraction to the grounds, especially to visitors, who naturally were curious to know their names, sections in which they originated. All are now labeled, the labels giving the common names, the scientific names and country of origin. We question whether, in the same space anywhere, there can be found so great variety of vegetation as on these grounds. Here, growing side by side, are the pines of the north and the palms of the south, the magnolia and the cedar trees from the north and the south, those which flourish in the high altitudes and those native to the low, trees of the arid and the humid regions and, strange to say, all do well. It would seem that here all the vegetation of the world can meet on common ground, on neutral ground as it were, and all do equally well. The trees of the capitol grounds form one of the features of the capital city and of the State, and in naming them so that strangers and the uninformed can recognize them and know them at a glance, the Capitol Commissioners, aided by Miss Eastwood, have done a very creditable piece of work.

* * *

CALIFORNIA FREE FROM INSECT PESTS.

Somehow or other there is always a vast amount of consolation for us in trouble if we only see some one else worse off than we. That is why I wish to call attention to the fact that there are others who are suffering more from insect pests than we of California. In California we sometimes have an outbreak of grasshoppers, as we have had this year, which do some damage, then the red scale in our orange orchards, which requires some labor and expense to keep in check, sometimes there is a slight outbreak of army worms and other pests, in small numbers or in limited areas, are reported, but none of these can compare in destructive work with that wrought by a single species in some parts of the East. Consider the Gypsy moth in Massachusetts, for instance, which has cost that State already over half a million and it has the pest yet. Then there is the cotton boll weevil of the cotton States, which has in some sections rendered cotton growing impractical and forced its abandonment. Then there are the plum curculio and the plum gouger, with neither of which we are acquainted. Then there is the chinch bug, the Hessian fly, both infinitely worse in the eastern grain fields than in those of California. Then there is the San Jose scale, sent to the East from California, and which, no longer a pest here, has developed to one of the most terribly and costly scourges which the eastern orchardist has ever been called upon to face. Here we have pear blight, there they have it too, and in addition peach yellows, peach rosette and littles. And so we might continue almost without limit, but enough has been said to show that our pests are not so bad after all. The Department of Agriculture has issued statistics showing that insect pests cost this country $785,000,000 a year, and it is certain that they are not all in California.

* * *

CULL FRUIT FOR THE HOME MARKET.

San Francisco and other California towns every year register a just complaint over the fact that, while the markets of the East are supplied with the choicest of California fruits, the culls are dumped in our local markets, and California consumers are supposed to eat what the eastern consumer would reject. There is altogether too much truth in these complaints and good grounds for them. It is a fact, that the poorest fruit grown in the State finds its way to our home markets, and this is especially noticeable the present year. There is a great shortage in most of the fresh fruit crops, accompanied by a good demand. As a result, growers and shippers are carefully selecting fruit for the eastern market, while stuff that would disgrace any producing section is dumped on the home market. It is almost impossible to purchase at any of our fruit stalls peaches which are not deformed, half ripe and full of worms, apricots are a solid mass of scab from shot-hole fungus, while pears and apples are cracked and blotched with scab. It is true that the fruit crop this season is not up to standard, but in spite of that fact, the California consumer should receive the same consideration which is given the eastern er, for surely his money is as good, and generally he pays as much for what he gets.

"I take notice," said Uncle Eben, "dat de man who tells you how easy it is to be contented wif salt po'k an' beans giner'ly has as fine a appetite foh fried chicken as anybody."—Washington Star.

Dressmaker—And would you have leg-of-mutton sleeves, madam?

Customer—Most certainly not. I am a vegetarian!—Punch.

CALIFORNIA
State Fair
SACRAMENTO
SEPT. 2nd to SEPT. 9th
Native Sons Admission Day Celebration
ELECTRIC CARNIVAL
RACING RACING
HORSE SHOW CATTLE SHOW
POULTRY SHOW
7 PARADES 20 BANDS
FREE AGRICULTURAL PAVILION
Excursion rates. Exhibits carried free.
For Information and Premium List, address
BENJ. F. RUSH, Pres. ALBERT LINDLEY, Sec'y

Best Prune Dip
GREENBANK
Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO
When writing advertisers mention Cultivator.

We Can Save You More Money
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping
J. L. BERRY SUPPLY CO., Los Angeles, Cal.
Office; 304-305 Douglas Building Shops and Yards: 860 North Main St.
Phones; Home 2367; Sunset Red 2811 Phones; Home 1088; Sunset Main 1088
When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING
PAPER
MANUFACTURED BY
PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Write for catalogue
AMES PUMPS ARE STANDARD
A.T.Ames, Galt, Cal.

SLAVES OF THE ANT.

Prof. Cook once wrote in this department that certain insects, especially the ant, make subjects of other insects and compels their services in supporting the ants. Particularly did he speak of the fact that certain ants would enslave certain aphis, using them for food supply as the humans maintain a dairy.

An advance bulletin from Illinois State University now shows that this trait of ants has become an embarrassing problem before the Illinois corn grower. In speaking before the summer session of the State University recently, Prof. Stephen A. Forbes, State Entomologist, gave the life history of the corn root aphis. From this bulletin we note:

"This aphis, one of the many species of plant louse, seems to be growing yearly more destructive, and is seriously threatening the corn crop in many parts of the State and country at large. Where this insect abounds, the crop is injured sometimes to the extent of fifty per cent, and the farmers are beginning to complain more and more about its ravages.

Until recently, little was known about the nature and habits of this pest, but Professor Forbes and his assistants have learned much about its life history and the best methods of preventing its ravages. The aphis is itself, completely helpless. If left to itself, it could not procure food, so slight is its intelligence.

The brown ant, however, which gets its living from the juices secreted by the aphis, sees to it that this little animal gets sufficient food. It is an interesting fact that this aphis could not exist without the ant, and the ant itself, during a large period of its life, would die of starvation without the aphis. So these insects have formed a co-operative society, in which the aphis looks out for the food supply, and the ant gives the necessary direction by means of its superior intelligence.

This variety of aphis, as its name indicates, lives on the root of the corn plant. The ant digs a tunnel from the surface of the corn hill down to the root, and then carries the aphides down this underground passage, and deposits them where they will get the most nourishment. The ants do all the selecting, and if they do not consider the place they first choose as satisfactory, they remove the aphides to a more favorable locality. The aphides themselves seem to be entirely neutral in the matter. Their business is to eat abundantly.

The aphides act upon the corn somewhat in the manner of a drought. They deprive it of its juices, and it starves to death. The prevention of this pest has become an economic necessity, and it can be entirely eliminated by destroying the ants who keep it alive."

The treatment which the bulletin recommends is thorough cultivation and rotation of crops.

THE RELATION OF INSECTS TO HEALTH.

During the course of the lectures before the summer school of Illinois University, Professor Forbes discussed the question of the relation of various insects to the health of a community. He explained the manner in which certain varieties of mosquitoes carry the germs of malaria and yellow fever, and stated that if these insects could be removed, these two diseases would be unknown. He also showed the part that the common house fly plays in the spread of typhoid fever by visiting sink drains, and other infected places, and by subsequently lighting on food. Fly-paper and screens are of great value from the standpoint of public health.

Dr. Forbes emphasized the fact that the activity of flies in the retention camps in the southern part of the United States during the Spanish American war, was responsible for more deaths than were the Spanish bullets. In later lectures in the series Professor Forbes considered particularly the great value of bird life to the farmer, and the fruit grower, in keeping down the scourge of insects, and urged that the community should acquaint themselves with the laws for the protection of birds and see that these were enforced.

RESTRICTING SHIPMENTS OF INFECTED FRUIT.

A meeting of the Santa Barbara County Horticultural commission was held at Lompoc, last week, C. J. Russell of Santa Maria, and W. H. Schuyler of Lompoc, the other members attending. Dr. Yates, one of the members, gives the following account of the session:

Mr. Schuyler reported his action in regard to the resolution passed at the last meeting in relation to the prevention or regulation of the shipment or removal of infested fruits from the orchards where grown. He also moved that, as infested fruit has been, and is still being sold and shipped out of the district, that the secretary be instructed to confer with the State Horticultural Commissioner as to the best method to prevent such shipments or removals and also to ask that the individual members of this commission be appointed as deputy inspectors under the State Commission.

The commission further requests that the Southern Pacific railroad company will so instruct its agents that they will not ship fruits, trees or vines from any of their freight depots to any other point outside of the horticultural district in which said fruit is grown without a certificate from the horticultural commissioner of the district that the fruits or trees are free from any destructive disease or pests, which may be a menace to the locality to which the said fruit or trees may be addressed.

Mr. Schuyler reported that on a recent visit to Santa Cruz island he had found the black scale, and he had also found that the scutellista had been working the destruction of the scale.

Mr. Russell reported that infested apples were being shipped in from San Luis Obispo county to Santa Maria, and the board advised him to stop all such shipments of apples infested with the codling moth, when found to be so infested.

The board were also of the unanimous opinion that stringent methods must be adopted to prevent the spread of the "San Jose scale," and other injurious insects now infesting the Lompoc valley and adjacent country, as, unless this is done, the apple industry of the region will be entirely destroyed.

"RED LEAF DISEASE."

The mysterious "red leaf disease," which was first observed in the vineyards of Sonoma county two years ago, and which was at once given attention by the viticultural experts at the State University, forms the subject of a bulletin recently issued by the agricultural department of the university, the author being Ormond Butler, who was delegated to investigate the disease.

While investigating the "red leaf disease," Mr. Butler found that a number of maladies, either parasitic or physiological, were responsible in a measure for the weakness or dying of the vines. Among these affections, phylloxera, root rot, mildew, lack of affinity between scion and stock, lack of adaptation of stock to soil, mechanical injuries, erinose and black knot are quite prevalent in Sonoma county, as well as in most vineyard districts of California.

Mr. Butler's observations seem to show that the cause of the red leaf disease is not parasitic, but that it is probably due to soil and atmospheric conditions. These observations will be kept up during the coming season, and a careful examination of the sub-soil and moisture contents of the experimental plots will be made through the growing season, so that definite conclusions may be drawn.

THE MOST VALUABLE PIECE OF REAL ESTATE IN THE WORLD.

In 1780 the property at the southeast corner of Broadway and Wall street, New York, was sold for £1000, a handsome price for those days; but in 1827 it brought more than three times as much, or $18,725. At the death, in 1901, of Benjamin Douglas Silliman, a famous lawyer of New York, the then owner, the value of the property was estimated at $500,000. In 1904 it was assessed on the tax list at $535,000. On Tuesday it was sold for $700,000; yet it is a small piece of land, only about 30x39 feet, and the price paid for it is therefore about $600 a square foot. This is equivalent to about $1,500,000 for a full city lot of 25x100 feet. The attorney for the purchaser speaks of it as "the most valuable piece of real estate in the whole world." At any rate, it has been bought at what is probably the highest price ever paid for land of corresponding area in the world.—The Earth.

The best philosophy—a contented mind.

"IT'S PENNY WISE"

Policy to set out a good tree, costing good money, and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow st., Los Angeles.

The State Agricultural Farm

L. H. Bailey, professor of agriculture in Cornell University, delivered a lecture for the University of California summer session, recently. Part of his lecture was along the line of the needs of a State Agricultural farm, which was very pertinent at this time, as Mr. Bailey is perhaps the best man in the country to handle the question from a practical standpoint.

We can not give the whole of his lecture, only such facts and arguments as bear directly upon the selection and use of land for university purposes:

"The agricultural college is founded on the conception that education must relate itself to life. Important corollaries follow. In the first place, agricultural education should not necessarily be bound by academic methods. The teaching work in a college really divides itself into two parts, (a) the true college work, leading to a Bachelor's degree; (b) postgraduate work, leading to two degrees, the first of these being. the Master's degree, which should be given for experimental and investigational work, the work involved in the collection and accumulation of facts, etc., and the Doctor's degree, which should be given for a philosophical consideration of the facts and the collection of data.

Two great enterprises have now come into the college—the experiment station and university extension. Agricultural education also rests upon a large and quickened idea of the laboratory method. We are introducing laboratory methods into every school in the country; the kindergarten, manual training, the school garden, and science work—all mean the laboratory method. And now we also introduce the affairs of everyday life into the schools. All laboratories are pedagogically valuable in proportion as they are in vital connection with theoretical instruction.

All this brings up the whole question of the university farm. The college or university farm developed with the Land Grant Act. In its history it has gone through several phases. It was first conceived of largely as a model farm, and of course the model farms became the laughing stock of the farmers of the State; and they will always be. If they are model farms they have little pedagogical use. One farm cannot be a pattern farm for all conditions. There are thousands of model farms. Model farms are good farmers' farms. The State cannot afford to go into the model farm business in connection with university work.

In the second place, the farms came to be used merely to illustrate farm practices. In the old days we had museums in our colleges, and persons could go and exclaim as they saw the wonders. We still need museums, but we also have collections with which to work. It is not enough that students merely see things growing or see different breeds of animals. They must come nearer than merely to look; they must use and handle.

Again, college farms were sometimes run with the idea of making a profit; but you cannot run a farm with profit with student labor. If the State is to make money out of a farm, then it must not be used for teaching purposes, but must be conceived of as an out and out business enterprise.

In the next place, there was an idea that these farms ought to represent the commonwealth—that a farm should be "typical" of the State. It is a mighty poor State that can be typified in one farm. If the State wants a typical farm let it have it, but do not burden the University with it. Put it in charge of a Chamber of Commerce, or other advertising organization. Anybody can farm typical land.

Then there came the passage of the Hatch act in 1887, which established the experiment stations; and this afforded a means of utilizing the college farm. There are a good many of our institutions which are now carrying farm lands as experiment stations. Of course we should have farms for research. There are two kinds of research work on farms. One kind of research is in farm practice; the other is research in the fundamental physical, chemical, and physiological problems, which must be done on some farm directly under control.

Now we have come to the final and proper stage—the farm must then be a laboratory. Thus primarily it must be a laboratory enterprise, and the pattern and model idea are only incidental and secondary. If your people do not believe in this idea, then you must educate your people. A college farm is not primarily for the purpose of growing model or perfect crops. I should rather have the opportunity to teach one student by means of a farm than to show one hundred persons a field of perfect pumpkins.

If we study plowing in the class room, we must also study it in the field, even if we destroy a crop. We must determine and test the relation of plowing to moisture, aeration, microbic life and many other questions. It is more important that a man learn how and why to plow than it is for the college farm to grow a crop of wheat. Even if I tore up the drainage on a farm in order to teach it, I want to be able to do it. The botanist pulls up the plant to study it. In learning how to grow potatoes one should pull them up and study the root system. Not long ago I was asked how deep potatoes should be planted in a certain soil. I asked, "How many of you know whether the tubers form above or below the feeding roots." Four or five guessed, but no one knew. But on that fact depends much of the success in planting potatoes. If your students want to see a model orchard, they have a thousand of them in California. We want such an establishment as will allow us to drive our cattle right into the class room. We are this day building a class room at Cornell which will hold stock, and which has seats for the students on the sides. They will study real live cattle, not pictures and models. The young men study those cows and find out why they are good and bad cows. They examine their conformation, etc. These cows are just as much laboratory material as the plants of the botanist or the chemicals of the chemist. Next week, if we should be studying the question of beef cattle, they are brought into the building and the students study them just the same way your students study the stratification of rocks. Ten acres of land to use when I want it, and as I want it, is worth more pedagogically than a thousand acres to look at.

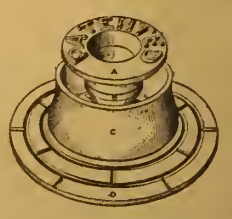
The value of a university farm from a university man's point of view consists in its usefulness as a means of teaching. If you do not want to call it a farm, call it land. The better it is as a farm, the better it ought also to be as a laboratory; but the laboratory utilization of it should always come first. If you are not using farms as a means of training men you are not using them for university purposes. A director of an agricultural college said some years ago when a visitor complained that he didn't consider the college farm to be a model farm, "I would rather have a good man with a flower pot in a window than have a poor man with a thousand acres of land." A university farm justified from the university or pedagogical point of view must be made a true laboratory to collate and articulate with the theoretical instruction, otherwise the future will not justify your possession of it.

The following figures are furnished by the Earl Fruit Co. showing the handsome returns that they received for fruit in the East on the 9th inst. These sales make fruit growing in California extremely profitable:

Boston, one car from Visalia	$1980
Boston, one car from Suisun	1525
New York, one car from Visalia	1702
New York, one car from Suisun	1615
Pittsburg, one car form Sacramento	1529
Pittsburg, one car from Sacramento	1457
Chicago, one car from Suisun	1285
Chicago, one car from Lorenzo	1219
Philadelphia, one car from Folsom	1665
Baltimore, one car from Winters	1389
Minneapolis, one car from Sacramento	1080

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

Wanted--Nursery Canvassers
A few good nursery canvassers for choice territory. Outfit furnished free; commission advanced weekly; expenses paid. Good opening for proper parties. Write at once for an agency. Give references when applying. Address
OREGON NURSERY CO., Salem, Ore.
When writing advertisers mention Cultivator.

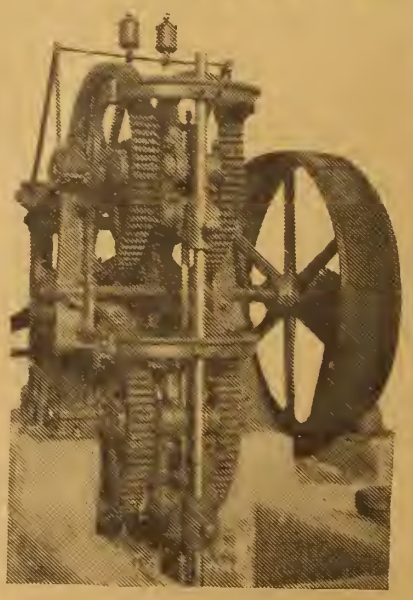
The Star Oil Burner
Its Own Gas Maker

Not an experiment, but a practically tested and successful invention. No superior for safety, simplicity, economy and durability. Without bolts, screws or rivets. Free from soot and smoke.
STATE AND COUNTY RIGHTS FOR SALE
For terms on or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation
When writing advertisers mention Cultivator.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES–			
2½	Horse	Power,	$125 00
4	"	"	185.00
10	"	"	368.00
15	"	"	556.00
20	"	"	731.00
30	"	"	1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.
M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.
When writing advertisers mention Cultivator.

WE GUARANTEE THE
White Lily Washing Machine
To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL.
White Lily Washer Co.
1539 Rockingham Rd. DAVENPORT, IOWA

The New Pomona Pump


48 Inches Flowing Over Weir.
This Tells the Story.
Write for our new catalogue.
Pomona Manufacturing Co., Manufacturers
POMONA, CAL.
When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day, Pasadena

INSECT PESTS OF THE CITRUS ORCHARDS.

The owner of a citrus orchard free from insect pests is indeed fortunate. Eternal vigilance is the price that the orchardist must pay for the continued freedom from the depredations of those insects which prey upon citrus trees and their fruits.

* * *

INJURY FROM PERNICIOUS INSECTS.

The pernicious insects which attacks citrus trees and their fruits derive their sustenance and support from the tree, diverting to their use the nourishment that is required for the growth of new wood, foliage and fruit. They prevent the growth of new wood, cut down the yield and lower the quality of the fruit.

* * *

INSECTS THAT INFEST CITRUS TREES.

Of the different insect pests which infest the citrus orchards of California, I now call to mind the following: Of scale we have the purple, red, yellow, greedy, black, soft brown, soft orange and cottony cushion scale. Of other insects we have red spider, mealy bug, orange aphids, black aphids, Fuller's Rose beetle, orange worm and thrips. A truly formidable array of insect enemies, nearly all of which have been imported into this State from other sections of the United States and other countries, through the ignorance or carelessness of those who have been engaged in importing fruit, plants or nursery stock into California. With an effective quarantine maintained in the years past, we should now be free from the scale pests which have cost our citrus fruit growers millions of dollars in remedies for their destruction and further injury to the fruit crops of years past. One reason why these foreign insects have proven so injurious to our citrus fruit interests has been from the fact that in transferring them from their native sections to this State, their natural insect enemies have been left behind, with the result that freed from these parasitic checks they have increased almost without limit.

* * *

INSECT CONTROL.

In the matter of insect control there are two methods employed. First, introduction of parasitic insects. Second, various sprays, washes and fumigation.

Nature's method of control by parasitic insects is the cheapest, and in some instances, although not exterminating the scale, keep them under such perfect control that they are no longer a factor in the insect problem. There are a number of native parasitic insects that attack the different species of scale and other injurious insects, and in some instances effectually control and keep down certain species of these injurious insects, and, in other cases, the control is only partial, and, again, wholly ineffective. In the matter of treatment of scale and other insect pests by spraying or fumigation the effectiveness of the treatment will depend upon its thoroughness and the time of application.

* * *

IDENTIFICATION AND A STUDY OF HABITS.

Every orchardist should have a practical knowledge of economic entomology and always carry magnifying glasses or lens. One a detective glass of ordinary power and another of a higher power, for close examination. The first of these, either a single or double lens, will cost from 50 to 90 cents, and the other from $1.50 upwards. The price given will furnish one that will answer all purposes for field work. Equipped with glasses the orchardist should study the insects of the orchard, learn their names and habits. Every citrus fruit grower should be able to detect on sight any of the pernicious insects that infect the citrus orchards of California. The object of this is to be able to discover any new infection of the orchard by an insect pest, new to the orchard or locality. Where the orchardist is unacquainted with names and habits of insects found in the orchard, he should secure specimens in a small box or vial and carry or forward them by mail to the horticultural commissioner of his county. An important matter is to be able to recognize each insect in its various forms of transformation, the egg, larva, pupa or crysalis, and the adult insect.

* * *

QUARANTINE THE ORCHARD.

No infected fruit should be brought upon the place. No plants, or nursery stock should be purchased without they pass a rigid inspection by a competent authority. No picking boxes or sacks in which infected fruit has been handled should be allowed to be brought on the place without being first disinfected. The county horticultural commissioner should be notified of the infection of adjoining orchards or places and a request be made for their disinfection. All this care and trouble to prevent the infection of the orchard with new insect pests is along the line of the old adage, "An ounce of prevention is worth a pound of cure." We have localities in the citrus sections of our State where the original infection of a single tree with a scale insect has been allowed to spread until it has thoroughly infected scores of orchards, that entail on the owners a yearly expense of hundreds of dollars for remedies which only partially keep the insect under control, with a still greater loss in damage to tree and fruit from the depredations of the insect. This has been especially true with the red and the purple scale.

THE CITRUS FRUIT SITUATION.

Following is an interview with A. B. Woodward, manager of the Southern California Fruit Exchange, who is probably the best posted man in California today on the marketing of citrus fruits. Our readers will find many suggestions of value in what Mr. Woodford says:

"Conditions all over the country are excellent, and the volume of fruit consumed, covering all kinds, is constantly increasing, until the business is reaching enormous proportions. This of cource applies to oranges and lemons, as well as to other varieties of fruits. Business conditions throughout the North, South, East and West seem to be improving from month to month and year to year, although, of course, the advance is more rapid in some quarters than others.

"Notwithstanding that California is constantly increasing its production in both oranges and lemons, there is every prospect that our good fruit will be taken at fair prices. We may not be always able to sell at remunerative figures the lower grades and offsizes, but fruit of good quality will, in my judgment, always be in demand. At least, for many years to come.

"Competition in oranges is largely from Florida, although, of course, there are quite heavy importations from Jamaica. It is generally reported that the Florida crop the coming year will be only about two-thirds of what it was last year, and to that extent we may expect a better market than prevailed last year for our holiday and early shipments.

"Our competition in lemons, of course, comes from the Mediterranean, and early in the present season, market conditions in the United States did not look attractive to the importers of this fruit, with the result that the amount imported was much less and we have consequently had a very much better lemon market than has prevailed for several years. If our lemon growers will take courage and raise a good quality of fruit, pick it at the proper time and care for it according to most approved methods until time of shipment, keeping the markets steadily supplied from one end of the year till the other and not rushing in and out, thus leaving openings for the Sicilians to step in and take the market, there is a great future for the California lemon and it will only be a question of a few years until California will furnish the great bulk of the lemons consumed in the United States, as she now furnishes the oranges.

"Growers in different sections of California should turn their attention to that variety of citrus fruit which grows to the greatest perfection in their respective locality, and for which the best net results are obtained. In the early days, owing to a lack of knowledge on the part of those who originally planted the orchards, the wrong variety of citrus fruit was in many cases planted. Certain sections are in the front rank in the production of navels; other sections in the production of Valencia Lates; still others in the production of lemons; the sections where each variety does best having become now fairly well defined, growers being able to judge which variety of citrus fruit will bring them the best net results.

"Altogether the time is not one of discouragement, but for renewed effort and ability on the part of all connected with the business, handling the whole situation, from the raising of the fruit, until it is finally marketed, according to the best and most approved methods."

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

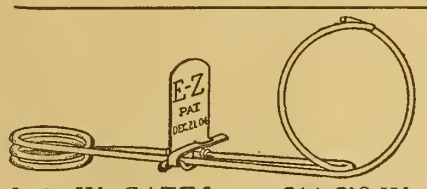
When writing advertisers mention Cultivator.

Peas 500,000 Pounds Two Hundred and Fifty Tons Peas

Nitro Culture doubles your croo. Every purchaser of one carload of peas may secure Nitro Cul ure Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.



Ask Your Dealer
for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

"Oh, we can fit you, all right, all right!

A HOEGEE TENT FOR THE BEACH

Send for a Catalogue

HOEGEE'S

Irrigating Hose
Khaki Clothing
Stack Covers
Fruit Picking Bags

The Wm. H. Hoegee Co.
Incorporated

Phones—Exchanges 87 138-142 So. Main St., Los Angeles

New Gun Catalogue now in printer's hands

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

THE CHAYOTE.

(Sechium edule.)

The Chayote is a tropical American vegetable (from Mexico and West Indies), closely allied to the cucumber, and the vines have somewhat the same appearance, though the Chayote is much more vigorous than its near relation. It is also much more of a climber than the cucumber and may be seen in scores of California gardens, climbing over fences, outbuildings, dead trees, etc.

One of the strangest features about the plant is that germination takes place while the single large seed is still within, or partly within the fruit. The mature seed is pushed out until about one-third of it shows, when it splits and the vine comes forth (see cut). In California the vine usually appears just before the roots, which start from the same source. The usual mode of propagation is to plant the fruit whole, leaving about one-half its bulk above the soil. The fruit will even grow when lying on a lawn with the exserted seed at least two inches above the soil, the roots reaching the earth within a few days after appearing, though the writer has seen instances where the vine has reached a length of three feet before any roots were visible.

The fruit is an excellent substitute for summer squash and by many considered quite superior in flavor. The vine makes a good climber where a rank growing, rough covering is needed for fences or outbuildings, and though somewhat tender, will, if frozen down, readily sprout again from the yam-like roots. The flowers are also rich in honey. The fruit from which our illustration was made was taken from a vine growing on the nursery of Howard & Smith, Los Angeles, where each season, the vine flowers and fruits luxuriantly. It should be given a trial in the most nearly frostless parts of Southern California, and it is probable, that when once it becomes known, it will be extensively planted.

The U. S. Department of Agriculture has issued a well-illustrated bulletin on this vegetable, from which we glean the following:

"Although of American origin and long confined to the American tropics, the Chayote has recently attained popularity in Australia and Algeria, and from the latter country hundreds of tons of the fruits are now shipped annually to the markets of London and Paris. It seems to be eminently worthy of cultivation in the Gulf States and California. * * * The annual production of Porto Rico must have a value of many thousands of dollars, although quite unconsidered as a source of wealth because the cousumption is entirely local."

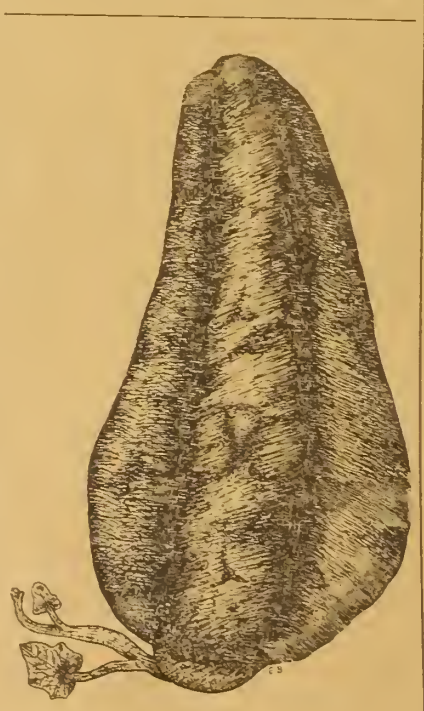
House pelargoniums should be repotted during August and a couple of weeks before the work is doue it is well to head back old or unshapely specimens.

PARKS OF THE FUTURE.

A change is coming to park affairs, the ideals are taking a more comprehensive form, and better suited to the needs of the people. As the park mission is being better understood, parks are no longer a rarity, but are common. While esthetical requirements are greater, yet they are being better adapted to everyday use.

It is necessary that what we do shall be symbolic of some thought or feeling, that it shall be a physical expression of some desire or purpose. We are not only learning these things, but also that the parks are more for the people, and that the people who rove over them are the most beautiful feature a park can contain, and that no park, no matter how barren and unsightly it may be when empty, can not be devoid of utility and beauty when filled with people enjoying themselves.

The large scenic park which came so strongly to the front twenty or



The Chayote.

thirty years ago is ever increasing in value, yet it is somewhat overshadowed at the present time by the movement in favor of small parks and playgrounds on the one hand, and the extension of the great park and boulevard systems on the other hand.

Cities are being considered more as a unit, with a civic center ever increasing in size, with radial lines of development ever extending outward, with inter-radial spaces of less value and receiving less attention, but it is in these places that parks and the quieter functious of city life should be located. Their value for parks is greater than the most costly business block. Scant sympathy is given to him who would locate a large square or park in the midst of a business district or across lines of radial growth. For there business must concentrate even as the lens concentrates the sun's rays, but parks and parkways should be located in inter-radial spaces.

The location of some parks has been such as to make them destructive and a nuisance, and full of contaminating influences. The feeling that a park must necessarily be of advantage, no matter where located, is giving away to the feeling that while a park proportionate in size and development to the area and population of the city it serves, and properly located, is of inestimable value, yet if out of balance or improperly located it may become a nuisance.

KEEP BUSY.

During the spriug and summer months, when the bushes and vines are covered with bloom, there is a disposition among home gardeners to regard their work as finished and to rest on their laurels, as it were. This is especially the case where one has other duties to perform, when an easy chair on a porch or a hammock swung between trees is more inviting. There is a tendency to neglect the flower garden, to let it take care of itself, and neglect now is more fatal than at any other period. Just a little neglect now means destruction to some of the beautiful plants that cost time and money. Neglect in watering the sweet peas will cause them to turn yellow and stop blooming. Neglect now will give the aphis and other insect enemies a chance to get in some very deadly work. Neglect in tying up the long stalks of gladiolus will cause them to fall during the wind storms. Neglect in watering the plants of all kinds will cause them to dry up, wither and die, defeating the object for which they were planted. Neglect to use the hoe will give the weeds a chance to grow and crowd out the flowers. In short, neglect of any kind will undo much of the good work that was done earlier in the season.

TRAINING PLANTS.

The best time to train a plant is while it is young; then it is tractable and easily handled. After it has made considerable development it is hard to manage, and much of its work is wasted because its growth has to be sacrificed to bring it under control. By training the plant while it is young it can be made to grow along lines desired, consequently there will be no vitality uselessly expended. Very few plants will grow into symmetrical shape if left to pursue their own inclinations. They will be apt to grow up tall and lank, having but two or three branches where there should be a dozen. If the top of the young plant is pinched off branches will soon start and if these are pinched back when three or four inches long they will produce other branches. The result will be a bushy, compact plant with a good many flowering tips, whereas, if left to itself, there will be a few branches, and a small quantity of flowers.

FIRST CULTIVATED ROSES.

It is said that the first cultivated rose was planted in Belgium in 1522. The damask rose was taken to England from France in 1573, the moss rose about 1724 and the China rose fifty years later.

If the chrysanthemums are troubled with insects it is a good plan to apply tobacco tea to them.

AUGUST A TIME FOR SOWING.

August is the time to prepare for the second California springtime which the beginning of the rainy season ushers in. The character of the preparation depends upon the location and also upon the moisture available. The irrigated garden has possibilities far beyond those of the rainfall garden; therefore, if you have water, clear away the debris of the summer crop, soak the soil deeply and, as soon as the soil works well, fork it over thoroughly, fine the surface and sow all kinds of hardy vegetables and annual flowers which you desire. Many tender things can also be sown in August if you have a location free enough from fall frosts to allow them time to mature. In the hottest interior situations, however, August sowing does not succeed so well as near the coast, because some seedlings cannot endure the dry heat even if soil moisture be adequate. On a small scale a lath or cloth shade may protect them without too great outlay. On the other hand, August sowing of same things in the interior is often very satisfactory. Garden beans for instance are often more prolific in the moderated heat of the autumn than near the summer solstice and one can have good sweet corn, cucumbers, cantaloupes, etc., in the autumn also, unless the frosts come too early. It is interesting to try many other things with an August start on irrigated land, and a beginner will often be surprised and delighted over his achievements if he dares to defy the warning of the wise acres who tell him he must wait for the fall rains.—E. J. Wickson in Sunset Magazine for August.

Bone dust or bone flour makes an excellent fertilizer for potting soil. Four to six ounces of finely ground bone flour may be added to a bushel of potting soil, mixing thoroughly. The dust or flour should be used for this purpose, and not the bone meal, which is much coarser.

Let the poppies transplant themselves; don't try to transplant them.

CAULIFLOWER SEEDS
$1.50 PER OUNCE
DIRECT FROM GROWER
DENMARK
KARL KOLLE, 1234 N. 50 Av. CHICAGO
When writing advertisers mention Cultivator

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.
When writing advertisers mention Cultivator

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator

General Agricultural Notes

GRICULTURAL INSTRUCTION.

The Experiment Station Record, in speaking of the present satisfactory movement toward a more general introduction of elementary agricultural instruction, says:

The progress which is making among leading educators in this country in the conviction that agriculture should be given a place in courses of study for rural communities, was evidenced at the forty-fourth annual convention of the National Education Association, held at Asbury Park, N. J., early in July. Elementary agricultural instruction was one of the prominent subjects of discussion at the convention, and it enjoyed the distinction of special mention in the annual address of the president of the association, delivered to thousands of teachers at the opening session. This was perhaps all the more significant as coming from the superintendent of schools of New York City, Dr. William J. Maxwell.

Doctor Maxwell commended the teaching of agriculture in public schools in strong terms, pointing out its advantages to the people in rural communities, and to the nation as well, in the greater efficiency of its agricultural population. He declared the teaching of agricultue in a practical manner to be just as necessary for the rural school as manual training is for the city school.

Most important of all, however, was the report of the committee on industrial education in schools for rural communities. The report of such a committee was in itself a significant fact, and this was further emphasized by the prominent place given it in the programme and discussions of the association. The report was an elaborate one, comprising nearly a hundred pages.

In general the committee called attention to the difficulties of securing the efficient teaching of agriculture with the present organization of our public school system. It discouraged the wholesale introduction of agriculture in country schools having only a single teacher. "To require by law that every country school teacher shall give instruction in the elements of agriculture is, in the judgment of the committee, a serious mistake. It will simply result in another failure to be added to the failures recorded in France, Ireland and Canada. Such failures are likely to discourage further immediate efforts and prevent the present undertaking of what might otherwise be done."

In the discussion following this report Prof. W. M. Hays made a strong plea in favor of schools specially adapted to the needs of country life. He called attention to the fact that thus far the public high schools have almost exclusively shaped their curricula with reference to the needs of the people living in cities, with the result that the country children attending such schools are drawn away from the farm. While recognizing that under present economic conditions a considerable portion of the country youth would naturally be drawn to the city, he urged that education for the country people should be of such a character as to maintain farm life at a high level and make farmers more efficient and progressive.

Dr. A. C. True, of this office, pointed out that leaders of agricultural progress are now thoroughly in earnest in demanding that instruction in agriculture shall be made a regular part of our public school system, and that this demand shall be met by teachers and school officers. He stated that enough had been done to show that such instruction could be made successful in elementary and secondary schools, and that it only remained to work out a feasible plan for the general introduction of agriculture into the rural schools. The wide interest which has been aroused, the experiments which are making with different methods, and the intelligent study which is now being given to the subject by educators, make the probable realization of this end not far distant.

GATHERING STATISTICS.

The last legislature passed a bill providing for the gathering of statistics in the different counties of the State as follows:

"It shall be the duty of the board of supervisors of each county, on or before the first day of November of each year, to supply the secretary of the State Agricultural Society, upon blanks to be furnished by him for that purpose, statistics showing the products grown, produced or manufactured in said county, for the year preceding, and the expense thereof shall be a county charge, to be paid as other county charges against the county."

Acting under the requirements of this law, the secretary of the State Agricultural Society, Mr. Albert Lindley, has had blanks prepared which will be supplied to the supervisors of each county and which they will be required to have filled out. This is a work which has long been needed, as it has been almost impossible heretofore to obtain much more than an estimate of the products of the State, especially of the agricultural and horticultural outputs. The law required the assessors of the various counties to obtain the number of trees and vines in their counties, but this has either been ignored or done in such a manner as to be absolutely worthless. In many cases, the owners believed that the information was required for purposes of assessment and have falsified the reports to the extent of their conscience, which in most cases was very elastic. Under the new law it will be possible to obtain from each county accurate information which will be of great value to the grower and shipper and, as there can be no suspicion that it is for assessment purposes, it will be easier to obtain accurate information.

SKIM-MILK PAINT.

An eastern exchange has the following recommended for a cheap paint:

A use to which skim-milk, sour milk, butter-milk, or even whole sweet milk is often put is paint-making, yet this product of the dairy, says the Scientific American, makes possibly one of the most enduring, preservative, respectable and inexpensive paints for barns and outbuildings. It costs little more than whitewash, provided no great value is attached to the milk, and it is a question whether for all kinds of rough work it does not serve all the purposes and more of the ready-mixed paint, or even prime lead and paint mixed in the best linseed oil.

It should be made as follows, and no more should be mixed than is to be used that day: Stir into one gallon of milk about three pounds of Portland cement and add sufficient Venetian red paint-powder to impart a good color. Any other colored paint-powder may be as well used. The milk will hold the paint in suspension, but the cement being very heavy, will sink to the bottom, so that it becomes necessary to keep the mixture well stirred with a paddle.

Six hours after painting this paint will be as immovable and unaffected by water as a month-old paint. It is a splendid preservative, and I have known buildings which were painted twenty years ago in this manner, in which the wood was well preserved. Whole milk is better than skim-milk, as it contains more oil and this is the constituent which sets the cement. With the addition of a small quantity of crude carbolic acid it makes a fine disinfectant and is in every way suitable for dairy work.

FOREST PRODUCTS.

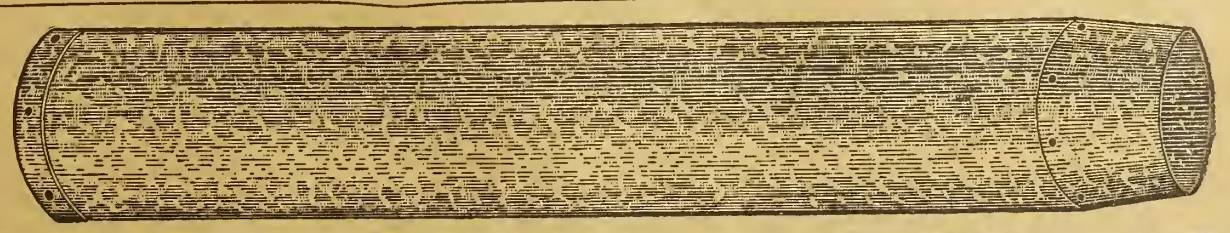
The annual value of the forest products of the United States, as enumerated in the Twelfth Census, is nearly 575 million dollars. If to this were added the value of the firewood, farm material, and other forest products for which no returns are available, a very much larger figure would be shown. Thus, as a direct source of wealth the forests of the country rank nearly with the mineral products as second to the farms. In addition to monetary value, the forests of the country have an immense, though not exactly calculable, value as a source of future supply and as a protective covering for watersheds.

PRACTICE MAKES PERFECT.

Oh, what a tangled web we weave
When first we practice to deceive.
But when we've lied a year or two
How slick we are! I am. Aren't you?

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino
When writing advertisers mention Cultivator.

SHASTA ROUTE is the way to the great
SOUTHERN PACIFIC
LEWIS & CLARK EXPOSITION
Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.
$35.00 ROUND TRIP
Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles
SOUTHERN PACIFIC


TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE
Tallerday Manufacturing Co.
PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles
MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES
When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1883
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, August 18, 1905

CONTENTS.

	Page.
Homes Manufacture of Olive Oil	147
California Horticulturally	148
Slaves of the Ant	149
Restricting Fruit Shipments	149
State Agricultural Farm	150
Citrus Fruit Situation	151
Insect Pests—Citrus	151
Floriculture and Garden	152
General Agricultural Notes	153
Editorial	154
Coast News Notes	155
Regarding Hog Cholera	156
Poison in Johnson Grass	157
Dairy Notes	158
Worms in Fowls	159
Poultry Question Box	160
Climate and Crops	162
Household and Recipes	164-165
Markets	166-167

Silk Culture in California.—The Department of Agriculture at Washington ought to pay more attention to the silk industry in this State. It is doing something, but the opportunities are so abundant for a valuable industry that it seems too bad more encouragement is not given it in the way of supplying conditions to expand its growth.

If the Agricultural Department would establish stations where egg production could be carried on, it would not be many years until the silk industry would become one of the leading enterprises in California. At present there is no source for egg production in this country. Eggs are imported, as a rule, from France and Italy, and they are so imperfect that results obtained from them are most unsatisfactory. Eggs bred in California are perfect, the worms healthy and strong, the raw silk of superior quality, which, worked into reeled silk and sewing silk, is the best made.

Secretary Wilson is endeavoring to import only first class eggs, but the experiments in the past have not been satisfactory to those who have used them. A modern silk station, with a competent instructor in charge, with mulberry trees grown especially for feeding, would soon send the silk industry to the front in California.

Mrs. Carrie Williams, of San Diego, probably one of the best informed of the silk growers in this country, tells us that the government pays $5.00 per ounce for eggs and the demand is greater than the supply. Manufacturers import $50,000,000 of silk annually, which they call reeled silk to evade the duty of 25 per cent. This is really raw silk, but under the duty it comes in as reeled silk and this discrimination is what retards the silk industry in America. Notwithstanding the drawbacks to the business there is considerable silk culture in California. It is conducted on a small scale, of course, but those engaged in it find it not only intensely interesting, but lucrative. If conditions were right, that is, if the Department of Agriculture would put in stations where the soil and climate are conducive to the growth of the worm, and supply those stations with competent instructors it would not be many years before California would rival the best silk producing nations of the world. Mrs. Williams assures us that Southern California can produce better eggs than any State in the Union or country in the world—for that matter. The mulberry tree, if care be taken with it, makes a healthier leaf in California, on which to feed the worms, than any other place where it is grown, France even not excepted.

As to the profit in silk culture it needs only to be said that the raising of the worm is comparatively inexpensive after the station has been fitted with the necessary appointments to make its growth assured. The expense comes in where skilled labor is required to manufacture the silk. If labor could be procured in this country as cheap as it can be in France and Italy, we would be able to compete with the oldest silk making countries of the world. But until we have stations and instructors to teach young women the process of the culture, the industry is largely at the mercy of foreign help and this has proven too expensive to permit of extended operations. At Petaluma, in Sonoma county, there is a silk mill employing one hundred hands and we are advised that the enterprise is proving a success.

If silk could be made here under as favorable conditions as it is in some of the countries of the world, it would become one of our chief industries in California and the South. Note the profit which attaches to silk culture. One pound of reeled silk will make from five to fifty yards of silk goods, or twelve yards of grosgrain. One pound is worth $5.00 and fifty yards of grosgrain is worth $150. Eggs are worth $5.00 an ounce, which alone would make a handsome profit under favorable conditions. In 1865, we believe, when the silk worm disease ravaged Europe, Japan realized $85,000,000 in a few years from eggs alone. So it will be seen that the government might well devote much more time and money to exploiting the possibilities of the silk industry in the United States, for once we have established the culture it would be a source of immense revenue to the country in the saving of money now paid for our silk purchased abroad.

* * *

Great Irrigation Schemes.—Following the announcement of the fact that the Owens river is to be brought into Southern California for irrigation purposes, comes the statement that the government has decided to condemn Indian valley, the richest in Plumas county, supporting three towns of about 3000 population, for the purpose of irrigating the lands in Sacramento valley, a distance of some eighty miles. Engineers are at work on the plans now and it is proposed to dam the Little Feather river, holding the water in the valley, to be used as the demand may be made. The reservoir will be twenty miles in length, with an average width of five miles. While the cost to the government will be very large the territory watered will include some of the finest agricultural lands in the State. These lands heretofore have been unproductive for general farming, but under the irrigation ditch proposed will form one of the richest and most reliable sections of country in the State. The government is alive nowadays to the importance and necessity of extending irrigation to bring under permanent cultivation the unoccupied lands of the West. The growth of our population on the Coast, demands increased acreage, lands at prices which will justify their occupation by farmers with limited means who desire to operate on a circumscribed scale. Watered lands in California are now practically taken up, their price is beyond the ability of the average man seeking a home, he can not acquire them, but he will be able in unoccupied territory to gain a foothold, under the government plan of irrigation, at prices he can command. It is to encourage the building up of the State that this irrigation scheme is advanced. When the valleys of the North and the deserts south of the Tehachapi are watered, as they soon will be, we shall realize what California under favorable conditions can do. Our population will be numbered by millions and our products fill the land of all countries.

* * *

Property Enhanced by Trees.—The Cultivator has, at different times, discussed at length, and scientifically, the value of tree planting as moisture producers. It has also urged the pecuniary advantages derived to a farm and to a town, by liberal, intelligent selection of trees for street beautifying. We are glad to note that this subject is receiving the attention of others, also authorities, on the question. One of the most recent discussions comes from the California Promotion committee, which has issued a pamphlet entitled "Street Trees in California." The author of this valuable bulletin is Professor Jepson, of the University of California, instructor of botany. In this pamphlet he discusses at length the property value derived by tree planting to cities and towns, as well as rural districts, and the suggestions he offers are well worthy of careful consideration.

"From the standpoint of both the individual and the community," says Professor Jepson, who has given special study to this subject, "there is no other asset that can be put upon the land of municipal and agricultural California so valuable as trees. And there is particular need for planting trees in what is practically waste land, the curb line of streets and the sides of many county roads. Such trees, properly planted and persistently cared for, are valuable to all as well as to one, for several good reasons. As a purely commercial matter it is now well known that street and road trees increase property values. Authenticated cases are at hand where naked farm land of superior value has sold at less price than inferior land fronted by lines of roadside trees. And this difference is, to a certain extent, justified because in these days of increasing wood scarcity, trees have in themselves a great value. As a matter of comfort, too, street trees are a boon in a land where for five or six months cloudless skies prevail."

Along the lines suggested by Earnest Braunton, in his articles published in the Cultivator, Prof. Jepson calls attention to certain rules which are everywhere applicable to the selection, arrangement and planting of trees on streets in town and along the public highways, and his recommendations are of great value to all civic improvement clubs which are taking this subject under consideration.

Deciduous trees, evergreen trees and palms are the three classes recommended for general use. A list of deciduous trees, with the advantages and disadvantages of each as a street tree, takes up many pages of the pamphlet.

The Cultivator would suggest that those interested in the subject of tree planting send for a copy of the pamphlet and study its suggestions, as to what to plant, and how to plant, that they may intelligently work the coming season. Tree planting is one of the most needed improvements in California, not only to beautify our towns and highways, but to enhance the value of our homes.

* * *

A Lesson to be Heeded.—New Orleans is again experiencing a scourge of the much dreaded yellow fever. Some years ago that city was visited by the fever and several hundred victims died from its ravages. At that time sanitary measures were resorted to which effectually stamped out the plague, or so nearly stamped it out that it has not appeared as an epidemic since. At that time the health officers of the State and City of New Orleans thoroughly renovated the sewers and drain pipes in houses, and by the free use of quick lime in the marshes about the city, disinfected the unhealthy places. The streets were cleaned and alleys made free of decaying vegetation, as well as of every sort of refuse substance which would breed bacteria of the yellow fever type. The result was that in one season the plague left, and not until this year has it appeared in an alarming form. Of course, there have been cases annually where the fever developed, but it was not permitted to gain any headway, because the health board exercised great caution in cleaning the city.

It appears, however, this spring the efforts of the health board relaxed, the city and country about it became dirty, the rice fields were not looked after nor the sewers and drain pipes in houses inspected as heretofore. This letting down of the bars of caution, which was occasioned by a desire to retrench in public funds, has proven a serious lesson to New Orleans. How much has been gained by so doing will be seen in the results which the city of New Orleans is now experiencing. Reports are to the effect that business is almost wholly suspended, entailing an enormous loss on the commercial interests of the city and country round about. What is true of New Orleans may be true of every city in California. We are in the line of every plague which finds its greatest stimulant in tropical climates. Our railroads lead directly from southern cities, while our ports are open to ships which visit almost every land and bring the products thereof to our doors. We ought always to bear these things in mind and to keep our coast line towns and cities clean and sanitary in every particular, as it is possible to make them. The money New Orleans saved in retrenching in its health department has gone out a hundred fold in the loss of business the city has sustained in the few weeks yellow fever has scourged it. The lesson is one to which San Francisco, Los Angeles and San Diego may well give heed.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

Lump sales of the apple crop in orchards in the Pajaro valley this season are more than for many years past.

Plans are on foot to organize a new association to be known as No. 14 of Queen Colony Fruit Exchange at Corona.

The dried apricot crop around Bloomington was all pooled and sold at six cents per pound and shipped last week.

A twelve ton carload of mixed fruit from Visalia sold in the East last week for $2197. This is the highest price of the season.

A. L. Rice, foreman of a big prune orchard at Rockford, Tulare county, is trying the experiment of killing squirrels by putting dynamite in the holes.

According to one authority on fruit shipping, if early rains do not come to prevent there will be shipped about 1800 carloads of grapes during the present season.

The Oppenheim Fruit Co. at Lodi has offered $280 as prizes, above the wages, to be given to packers receiving the highest sales for their packs during the season.

Prune drying around Healdsburg is on in full blast this week. Brown Bros. will operate very heavily in that section this season and expect to dry over eight hundred tons.

Some crops of prunes in the Pajaro valley have already been sold on the tree, to be delivered after they are dried, the contract price being at two and a half cent basis.

At the annual meeting of the Covina Fruit Exchange, held last week, Dana C. King, of Azusa, was elected to the position of manager and secretary, vice H. G. Chesebro, resigned.

Orchardists of Toluca valley commenced shipment of peaches to Los Angeles last week. They are receiving $21.50 per ton for two-inch freestones and $33 for clingstones.

The apricot growers of the Hemet valley will have about fifty tons of fruit to market this year. Six and a half cents in car lots has been offered, but they are holding for seven cents.

The Fresno Democrat states that the fig crop will be as much as thirty-five per cent short in that county this year. Packers are offering two cents and it looks as though the price would go higher.

The Highland Messenger says that from the present outlook of the orange crop for the season, it will be considerably earlier than usual and that sizes will be exceptionally large. The crop in most orchards is very heavy.

The two canneries at Visalia are handling nearly all of the peach crop grown there this year, very little fruit being dried and the prediction is made that dried peaches will bring a much higher price than usual this year.

The Hollister Free Lance says that the prune crop in San Benito county will go about sixty-five per cent this year. The price started in on a two and a quarter cent basis, but has steadily risen to three cents, at which figures growers have sold liberally.

Reports from Porterville citrus section state that the orange crop will not be as large this season as last. Between eight hundred and one thousand acres were set out to oranges this year and indications are that large acreages will also be planted next season.

The Russian River Fruit Association of Sonoma county has in their pool this year about two thousand tons of cured fruit, chiefly prunes. The object of the pool was not to fix and maintain prices, but to have the prunes on hand and sell them when the market was at its best figure.

The Citrus By-Product Co. of Southern California, with headquarters at Pomona, has been organized. Capital stock is placed at $25,000, $7000 of which is already subscribed The more companies of this kind that are organized to use up cull fruit, the better for the fruit industry of California.

The validity of the recent order of the Board of Supervisors of Tulare county, prohibiting the importation of grape vine roots in that county is to be tested by a Fresno grower. This order was passed to shut out the phylloxera, if possible, but a similar ordinance passed by Fresno county some years ago was declared unconstitutional.

Dudley Moulton, horticultural commissioner of Santa Clara county, is in Southern California, collecting scutellista and other parasitic and predaceous insects. Though a young man, Mr. Moulton has already made for himself an enviable reputation as an entomologist. His recent article on thrips in the Cultivator has been widely copied and commented upon.

It was announced last week that a monopoly in the grape business covering the entire output of the San Bernardino valley had been effected by the California Wine Association, signing agreements to pay $11 per ton for all the grapes that growers could furnish them. Since that, outside buyers have been in the field offering $12 per ton, and the rumor is that the price may go another dollar higher.

At the meeting of the State Board of Trade held in San Francisco last week, at which were prominent fruit growers from all over the State to discuss the reciprocity question, the following resolution was passed: "That this Board has been in the past and is still opposed to any modification of the impost duties upon the productive industries of California, whether by the way of reciprocity or by legislation."

In spite of the great shortage in early shipments of cherries and later of pears, the green fruit shipments from this State up to August 9th were greater than those of last year by over one hundred cars. The figures being for last year 2821 cars shipped as against 2928 this year, and at the rate the prices are holding up in the East, the shipments will be much heavier at the end of the season than for several years past.

The Visalia Delta says that during eight days in succession there have been shipped from that city sixteen cars green fruit that brought over $1450 a car. One of these cars sold for $1762 and another sold for $1980. The Delta further says that these last two cars show profit of $1200 and $1500 each and that as a result of such high prices times will be exceedingly good in Tulare county the coming fall and winter.

The sudden winking out of a promised bumper crop from Georgia, Maryland and Delaware and other peach producing States in the East, has had the effect of booming California products to top notch on all tree fruits. During the past week or two the demand in the East has practically exceeded the supply. The fruits now being shipped from the central part of the State to meet this demand are peaches, plums, prunes, Bartlett pears and early grapes.

AGRICULTURE.

Experiments in growing canary seed in the San Juan valley were not successful this year.

Cantaloupe growers in the Lindsay section have cleared from $100 to $150 an acre net this seaon.

Barley yielded a heavy crop in the San Juan valley this year, but wheat was very light, occasioned by the rust.

The Lodi Herald says that prominent men of Stockton have decided to incorporate a company to build a factory for drawing and milling flax.

The cantaloupe growers about Coachella are preparing for a fall crop of "cants" to be ready for market about October 1st. About one hundred acres are planted.

The total grain crop on the big San Joaquin ranch in Orange county will amount to 175,000 sacks, practically all barley. The crop is commanding a price of about $1 per sack.

Oakley Bros. of the Imperial valley announce that they will engage extensively in experiments with sugar beets the coming year. Beets will be planted every month in the year that the best time to plant and harvest may be ascertained.

A dispatch from Ventura county states all the black-eye-bean farmers of that county will make a good clean up this year. The price now being offered is $3.25 per hundred. Last year some 50,000 sacks of this variety of beans were grown there, the price then being only $2.25 per hundred.

The Pajaronian says that harvesting the seven hundred and fifty acre crop of horse beans has been in progress in the Pajaro valley the past week. The yield was rather small, being from one-half to three tons per acre. Most of the crop has already been contracted at prices ranging from $1.40 to $1.75 per hundred pounds.

The State Board of Agriculture has sent to every board of supervisors in California blanks on which to collect important data regarding agriculture, horticulture and manufacturing interests of the State. The statistics to be collected will show at a glance the exact position occupied by each and every county. The classifications include cereals, hay, fruit, vegetables, nuts, brandies, live stock, poultry, dairy, fish, forests and manufactures, with a special schedule for productions shipped out of the State.

LIVE STOCK.

The Kings county creamery has been leased by the Raab Creamery Co. of Los Angeles.

A special feature of the Central California fair to be held in Hanford September 9th to 14th will be a dairy auction sale of live stock which will enable exhibitors to dispose of stock.

Wm. Clark, a prominent sheep breeder of Sonoma county, has been over the State looking for thoroughbred Ramboulette ewes, which he was unable to find, and has since sent to Missouri for a lot to breed from.

A company has recently been incorporated with a capital stock of $10,000 to conduct a creamery at Laton. Between four and five hundred cows have been pledged to furnish milk so that the success of the enterprise seems assured.

The Santa Maria Valley Live Stock Association has been organized to work in harmony with the county association, for the general protection of live stock interests. But its chief object will be to prevent the further spreading of Texas fever.

The supervisors of Sacramento county last week passed an ordinance regulating the conduct and conditions of dairies and markets for live stock, so as to provide for the protection of live stock from contagious and infectious diseases and enforce quarantines.

MISCELLANEOUS.

El Centro is the name of a new town to be started four miles from Imperial.

The supervisors of Riverside county last week voted $12,000 to be expended in oiling roads.

The bee men of Ventura county have been offered four and a half cents per pound for honey, but are holding the crop for five cents or better.

Residents of Owen valley, Inyo county, are protesting vigorously against the proposed action of Los Angeles city in taking their water supply.

D. F. Marikle, a bee man in San Diego county, has secured from one hundred stands ten thousand pounds of honey, or an average of one hundred pounds per stand.

Two new wineries have just been completed near Healdsburg. One is for Lawrence Moss, with a capacity of 40,000 gallons and the other for an Italian by the name of Denucci.

The California Traction Co. has filed articles of incorporation with the Secretary of State. The company will begin building at Stockton and will branch out in various directions to Modesto, Lodi and eventually to Sacramento.

Plans for the largest single irrigation plant ever undertaken by the Federal Government have been completed for the district known as the El Paso system. The plan is to construct a dam near Engle, New Mexico, one hundred miles north of El Paso, on the Rio Grande, by which water enough will be saved to irrigate 180,000 acres in New Mexico and Texas, and also 70,000 acres in Mexico. The cost is placed at $7,200,000.

C. H. SESSIONS, ASSOCIATE EDITOR

REGARDING HOG CHOLERA.

Editor Cultivator:—I have received the Cultivator for some time and am well pleased with it. I have been reading your articles on hog cholera. I will mail you in separate envelope Farmers' Bulletin No. 24 from the Agricultural Department, and ask you to kindly publish, although the formula is the same as you published some time ago.

I have tested this remedy as a preventive, having used it for over five years, and never lost a hog from cholera. Any person raising hogs and feeding the compound every 10 or 12 days will never have cholera. When I moved where I am now, a little over four years ago, the man that was on the place lost fifty or sixty hogs with cholera and buried them wherever they died. Consequently my hogs uncovered three that were buried together, and ate all they wanted before I knew it. I never lost nor had a sick hog, for I was feeding the compound, and fed it once a day then for some time. I had the druggist in Merced put it up, and he sells the 10 lbs for $1.50. My neighbors two years ago lost nearly all their hogs.—W. L. Weaver, Merced.

The formula which Mr. Weaver mentions has been published twice in the Cultivator, but after his unqualified approval we republish from the bulletin.

Wood charcoal	1 pound
Sulphur	1 pound
Sodium chloride	2 pounds
Sodium bicarbonate	2 pounds
Sodium hyposulphite	2 pounds
Sodium sulphate	1 pound
Antimony sulphide (black antimony)	1 pound

These ingredients should be completely pulverized and thoroughly mixed. In case there is profuse diarrhoea the sulphate of sodium may be omitted.

The dose of this mixture is a large tablespoonful for each 200 pounds weight of hogs to be treated, and it should be given only once a day. When hogs are affected with these diseases they should not be fed on corn alone, but they should have at least once a day a soft feed, made by mixing bran and middlings, or middlings and corn meal, or ground oats and corn, or crushed wheat with hot water, and then stirring into this the proper quantity of the medicine. Hogs are fond of this mixture, it increases their appetite, and when they once taste of food with which it has been mixed they will eat it though nothing else will tempt them.

Animals that are very sick and that will not come to the feed should be drenched with the medicine shaken up with water. Great care should be exercised in drenching hogs or they will be suffocated. Do not turn the hog on its back to drench it, but pull the cheek away from the teeth so as to form a pouch, into which the medicine may be slowly poured. It will flow from the cheek into the mouth, and when the hog finds out what it is, it will stop squealing and swallow. In our experiments, hogs which were so sick that they would eat nothing have commenced to eat very soon after getting a dose of the remedy, and have steadily improved until they appeared perfectly well.

This medicine may also be used as a preventive of these diseases, and for this purpose should be put in the feed of the whole herd. Care should of course be observed to see that each animal receives its proper share. In cases where it has been given a fair trial, it has apparently cured most of the animals which were sick and has stopped the progress of the disease in the herds. It also appears to be an excellent appetizer and stimulant of the processes of digestion and assimilation, and when given to unthrifty hogs it increases the appetite, causes them to take on flesh, and assume a thrifty appearance.

Success or failure with this remedy depends largely upon the manner in which it is used. If it is improperly administered, or the hogs left out in storms and compelled to remain day and night in mud six inches or a foot deep, under the necessity of searching through this mud to find an ear of corn in order to get anything to eat, the farmer might as well save his money and let his hogs die, as nothing we have been able to find will save them under such conditions. If, on the other hand, the sick animals can be made reasonably comfortable, and given soft, easily digested food to eat, the medicine, of which we have just given the formula, may be used with confidence that it will give good returns for its cost and the trouble of its administration. Apparently, it is not as beneficial in swine plague as in hog cholera.

In treating hogs for these diseases it must not be forgotten that in nearly all cases there is more or less inflammation of the internal organs, and particularly of the stomach and intestines. To treat such diseases successfully the animals should be kept dry and comfortable, and where drafts of air will not blow upon them. The food must be such as can be digested by the irritated and inflamed organs which are charged with this function. With these general principles in mind the farmer may undertake to treat his sick hogs with a fair prospect of success. He may not save them all, but he should be able to preserve a good proportion of them.

The question now arises, What disposition should be made of the hogs during treatment, and what sanitary measures should be adopted in addition to the medical treatment? When the hogs are first found to be affected with hog cholera or swine plague the lot or pens where they have been confined should be disinfected by dusting plentifully with dry, air-slaked lime, or by sprinkling with a 5 per cent solution of crude carbolic acid. The animals should then all be moved to new quarters. If possible, the sick and apparently well should be separated before they are moved and then put into different lots. This is not essential, but it is an aid to the treatment. The hogs should be kept in dry lots, or pens, where there is no mud, and, above all, no stagnant water. It is well to keep these lots disinfected by the free use of air-slaked lime or carbolic acid.

It is not expected by this supplementary treatment that the hogs will be entirely removed from the influence and attacks of germs. This is not necessary. The number of germs which gain access to their bodies may be so reduced by following the plan, however, that the vital force of the system, assisted by the medicine, is sufficient to overcome them.

During this treatment the hogs gain a marked degree of immunity. No doubt this is the results of attacks of the disease from which they recover. This recovery is in spite of the continued infection of the premises, and even though the hogs which have gone through the outbreak are apparently well and thriving, new hogs added to the herd are liable to be attacked. For this reason five or six months should be allowed to pass before any new hogs are purchased and brought on the premises or before any are sold to be put among other lots of hogs. Young pigs born under such conditions in some cases are able to resist the infection, while in other cases they may suffer severely or die.

If any hogs die during the progress of the outbreak their carcasses should be immediately burned or deeply buried and the places where they have lain or the ground over which they are dragged should be disinfected with carbolic acid or lime according to the method already mentioned.

* * *

Prevention.—The swine grower should use every effort to prevent the introduction of the contagion of these diseases upon his premises. If he purchases hogs from a distance or sends his own animals for exhibition at the fairs, he should insist upon their being transported in clean cars, which have been disinfected if they have previously carried swine. When new hogs are brought upon the farm or when his own return from exhibition, they should be rigidly quarantined

DE LAVAL SEPARATORS
AND OUR LINE OF DAIRY AND CREAMERY MACHINERY
are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA

THE BUFFALO
Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.
We manufacture BUCK RAKES. Stackers, Gang Plows, etc. Write or see us before buying.
We Have a Good Assortment of Second-Hand Presses on Hand Now
L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. J. E. FISHBURN W. C. MARBLE, Secretary.
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

FLYO-CURO
Will Free Your Stock of Flies and All Kinds of Insects
COTTON SEED MEAL
The "Economic Feed" for Stock
KOW-KURE BAG BALM
HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins
CALIFORNIA'S FINEST
Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.
PIERCE LAND AND STOCK CO.
RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON
884 James Flood Bldg., San Francisco

and not allowed to come in contact with the other hogs on the farm for at least six weeks.

Hogs should not be allowed to run at large in the vicinity of railroads over which swine are transported. Infected hogs are frequently shipped to market, and there are sufficient droppings from the cars in which they are carried to scatter the contagion along the railroad for the whole distance they travel.

When these diseases appear upon a neighboring farm precautions should be adopted to prevent the introduction of the contagion. No one should go upon the fields or into the pens where the sick animals are and then go to another farm where the disease has not appeared. Remember that a particle of manure or dirt the size of a mustard seed from an infected farm is sufficient to start an outbreak that will destroy a herd of swine. A particle of that size may be carried upon the shoes of a visitor, upon the foot of a dog or other animal, upon a wagon wheel, or in a multitude of other ways. Non-intercourse at such a time is therefore the safest rule.

Experience shows that hogs kept up in a pen or small lot are less subject to infection when cholera is in the neighborhood than those which are allowed to run at large or in the fields. It is, consequently, advisable, when there is reason to fear this disease, to keep the hogs in a small enclosure, which should be as dry as possible and disinfected once a week with air-slacked lime or a 5 per cent solution of carbolic acid. A small quantity of carbolic acid (3 to 15 drops according to age) in the drinking water tends to prevent infection and may have a beneficial influence upon the course of the disease.

Other points on prevention are, "Breed stronger constitutional animals by using strong, mature breeders. Feed variety, wheat, barley and other grains, and do not confine too closely to corn."

THE OLDEST DOMESTIC ANIMAL.

Of all domesticated animals the sheep has from time immemorial been most closely associated with mankind. An erudite author sixty years ago, having laboriously collected an assortment of allusions to sheep made by sacred and profane writers, concluded that "the history of these animals is so interwoven with the history of man that they never existed in a wild state at all. Biblical history from the time of Abel is full of allusions to the flocks which formed the chief possessions of the Jewish people and their neighbors. The spoils of war and the tribute of vassal kings largely consisted of sheep. Thus we read Mesha, King of Moab, was a sheep master, and rendered unto the King of Israel 100,000 rams with the wool.

"LOADED WITH POISON."

The Fresno Republican has a somewhat extended article referring to the loss of large numbers of cattle in the San Joaquin valley, and says that some authorities there have maintained that the cause of the loss is due to the stock eating Johnson grass and that the grass causes the death of the stock on account of the large content of prussic acid. It is claimed that scientific people have made an examination and that some of the grass has been submitted to the chemistry department of the State University and that the local scientists unqualifiedly claimed that the prussic acid has been found in grass and that "the University chemists are said to have reached the same conclusion." The paper then adds:

"Prussic acid in green feed is not a new thing. A few years ago cattle were dying in Kansas from eating green sorghum, and tests disclosed the presence of the poisonous acid in deadly quantity.

As is well known Johnson grass was introduced into this country by Professor Sanders, now in San Quentin—not, however, for introducing the Johnson grass, although there are those who think the jury couldn't get the Johnson grass out of its mind. It's very hard to get out of any place.

Sanders proved that it contained more milk-producing ingredients than any other known fodder.

The farmers—relying upon his knowledge—he was an accomplished botanist—planted the un-uprootable stuff.

But, alas, the cows wouldn't eat it. They formed a milk maids' union of some sort and declared they'd die first. Many of them did.

Sanders was appealed to. He explained that his knowledge of the grass was purely scientific. In the laboratory it showed up strong. But, he explained, he didn't say that cows would eat it—that was up to the cows."

Of course, it may be that there is a poisonous substance in the Johnson grass. It certainly is exasperating enough in its general characteristics to make it easy to believe such a proposition, at least. We hope, however, that such will not be found to be the case.

LONG DISTANCE DAIRYING.

Editor Nelson of Farm, Field and Home directs attention to the fact that the hand separator and central creamery have become great in their consequences for far outlying districts. Not every district suitable to dairying is thickly enough populated or has enough dairy spirit to support a creamery or skimming station. But now from the farthest edges of Nebraska, for instance, and as far distant points in neighboring States, individual ranchmen are shipping cream to the great creamery at Lincoln. Sweet and fresh, the cream is skimmed immediately on milking, and before it could have time to rise under old methods, delivered at a creamery four hundred miles away. The cost of shipment—borne by the creamery—is 35 cents per eight gallon can, a trifling freight when it is considered that this is only a little over 4 cents for every can of milk put through the separator. For 200 miles the freight is a little over 2 cents for the cream of every eight gallon milking. The ranchmen receive an average of more than $4.80 for eight gallons of cream, or the equivalent of over $0.60 per can of milk. This is not counting the skim milk retained by them in its most valuable condition and fed at a minimum value of 15 cents per hundred pounds.

Milk production on a large scale need no longer be confined to suburban districts or others thickly settled. The 60 cents per eight gallon can, plus the value of the skim milk, is the equivalent of that received for years by many wholesale dairies close to the great cities. And it is not a temporary good price. Creameries exclusively are supplying our foreign butter trade. They have brought our butter up to a high state of excellence, and now our foreign trade is increasing. The Dutch, Swiss and Danes are the buttermakers of Europe; but their dairy resources are not ours. Another competitor is Russia, but the quality of American butter gives us an advantage over her. Their hardest problem, the creamerymen declare, is not to find a market for their butter, but to find butter for the market. They want all the cream they can get—much more than before, since the old markets are growing decidedly, and since butter can now be sold where before the oleomargarine makers palmed off their product.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."
When writing advertisers mention Cultivator.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS

BREEDER OF

REGISTERED JERSEY CATTLE

Jerseys with a record as milk and butter producers

Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

Sharples TUBULAR CREAM SEPARATORS

Will you buy a bad separator because the agent is a "good fellow?" Some people do. They should read this.

If You Have a Brand New Separator

not a Tubular, put it in the garret. **We guarantee Tubulars to make enough more butter than any other separator, and from the same milk, to pay 25 per cent yearly interest on their cost. You test them free side by side.** Your decision is final.

Carnegie is using investments paying 6 per cent; here is a guaranteed 25 per cent to you. The waist low supply can—simple bowl—enclosed, self-oiling gears—are found only on Tubulars. Catalog T 260 explains it.

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

IMPERIAL VALLEY HERD

DAIRY SHORTHORN BULLS FOR SALE

Admiral Dewey 183493 and King Edward 184393 at head of herd. Address

Fred Fuller & Bro. Imperial, Calif.

Berkshire Hogs ♦ Dairy Shorthorn Cattle

I am booking orders for pigs for September delivery. G. A. MURPHY, PERKINS, CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Holsteins For Sale

From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.

MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

PAXTON'S VETERINARY REMEDIES

for Horses and Cattle. Write for circular.

Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles
Lab'tory at La Porte, Ind
When writing advertisers mention Cultivator.

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now

AGAINST

ANTHRAX

AND

BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory
322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

When writing advertisers mention Cultivator.

DAIRY PROGRESS AND ENLIGHTENMENT.

We fear that eastern dairy farmers are not keeping track very closely, of the development of the dairy industry in the far west. For instance Humboldt county, California, is one of the best dairy organized counties on the Pacific coast, yet the industry may be said to be in its infancy there. Last year it produced butter that sold for $1,162,793; condensed milk, $62,569; condensed cream $50,496; total $1,175,858. Yet, with all this increase in the production of milk that is taking place all over the country, the increase of the consumption of dairy products has more than kept pace with it. This is particularly true of the consumption of milk, which has been due very largely to the agitation of dairy subjects in the public prints. More has been printed and read on dairy questions in the metropolitan newspapers in the past fifteen years than in all the previous history of the country.

The authorities of all the leading cities, as a consequence, have been stirred to the enactment of laws compelling the production of healthy milk and its strict sanitary care.

This movement has been going on all over the land and has resulted in increasing the confidence of the consuming classes very greatly. As a consequence the consumption has increased with the increase of confidence.—Hoards Dairyman.

WHAT DOES IT?

When a man has studied buttermaking till he is master of the science you can not keep him down. It is brains, just brains, that makes things come his way, writes a correspondent of the Creamery Journal. It is not the State he works in, the coal he burns, the tub he uses, or any other insignificeant thing that makes a man a winner or keeps him down. If there is anything that has an influence on the way medals go, it is in the oil the buttermaker uses. The man who uses lots of kerosene oil has a good chance to win. Oil used in the night lamp will have more influence on the product of the creamery than anything else. Study, think and work. Burn the midnight oil.

A recent number of Hoard's Dairyman contained a table summarizing the year's work of 100 herds of cows, containing 1894 head, in Vermont, at a creamery. The table showed that sixty-nine per cent of the owners lost money on their cows. That is, 69 out of 100 owners received less from the creamery per cow than it cost to keep the cows. Have you that Babcock test, and do you know that your cows are wealth producers and not merely star boarders?

Peter C. Kellogg, known also under his pen name as Hank Comstock, died at his home in Montclair, N. J., in his 68th year. Mr. Kellogg was one of the famous auctioneers and cattle men of his time, and left a name of strict integrity.

It is true that sheep will eat up and convert into a valuable product much coarse food that would otherwise be wasted. This is only a greater reason why they should be fed grain with sufficient regularity to equalize the rations so as to get the greatest good from the whole.

STOCK EXHIBITS AT THE STATE FAIR.

Besides the exhibits at the coming State Fair of California stock, the announcement is made that L. V. McWhorter of North Yakima and W. M. Caruthers of Chatteroy, Wash., are going to show their herds in competition with those of this State and the East. Both McWhorter and Caruthers are extensive breeders of shorthorns, and they announce they will send large herds. Another large breeder of cattle is Mr. Irwin of Minneapolis, who is going to show his herds at the Lewis and Clark Exposition. Secretary Lindley is now in correspondence with Mr. Irwin in the hope of inducing him to stop over in Sacramento and exhibit at the State Fair, as several other eastern breeders have announced their intention of doing.

Besides cattle from other States, many fine horses from the East will be exhibited, among them are McLaughlin Bros., of Kansas City, Mo., dropping off with forty head of beautiful Percherons, Belgians and coach stallions. These handsome animals were exhibited at the St. Louis Exposition last year, at which they took many first prizes.

Crough & Son, also extensive eastern breeders of the same types, will show at the State Fair, en route to Portland. Clyde Chipman, one of the best known breeders in California, is also going to the Lewis and Clark Exposition, and will enter his Percherons in the State Fair competition.

The Lafayette Stock Farm of Lafayette, Ind., will make a special exhibit of fifty head of fine draught horses, which will be the largest exhibit by one owner made at the fair.

Landis Bros., of Orangevale, representing the Greeley Horse Importing Company of Greeley, Ia., will have on exhibition seventeen high-grade draught horses. In this number are several prize winners at the St. Louis Exposition last year.

One who has practiced it for ten years says that for scours in pigs, give the sow, in milk or slop, two tablespoonfuls of baking soda. From one to two doses generally stops the scours. Give twice a day until pigs are well.

The man or woman who sets out to be a dairyman must love his work. Unless he does, failure lies just before him.

It is just as necessary to have fine form in the female as the male, as no male is endowed with sufficient prepotency to overcome all the imperfections found in the female.

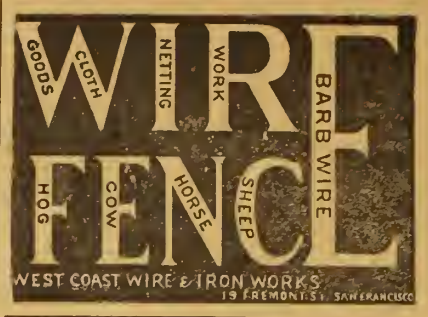
While bran may be a part of the ration of all classes of live stock, it should be fed in connection with ground grain or cut feed.

When given reasonably good management and care, sheep for the food they consume give the greatest returns both in money and fertility.

A fleece of sheep wool is the whole of the wool, which is taken from the animal at one shearing.

Animals are fed for profit and it is desirable to increase that profit to largest limit.

Plant potatoes for fall crop.



SUGAR=BEET=PULP

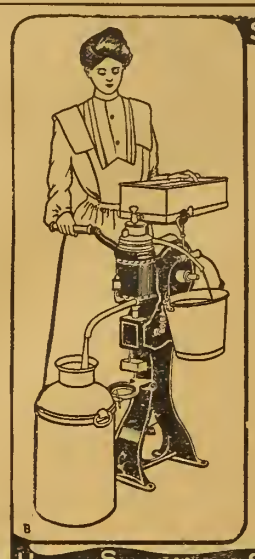
A Cooked "Cow-Breakfast-Food"

TO FARMERS, STOCKMEN, DAIRYMEN:

SUGAR-BEET-PULP, 60¢ per ton f. o. b. cars or wagon, fresh from factory. Professor Carlyle has demonstrated that 3¾ pounds of sugar-beet-pulp equal 1 pound of alfalfa hay in feeding value; and that 3 pounds of hay equal 1 pound of corn in feeding value. Hundreds of satisfied users have proved it to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

Los Alamitos Sugar Company Los Alamitos, Cal.

When writing advertisers mention Cultivator



An Increase in Profits

Here is the way it figured out for this man:

$52.52	received the month he used the U. S.
25.00	received the month he **didn't.**
27.52	**gained in one month.** At this rate
330.24	is the total for the first year, and
100.00	deducted for his machine, leaves him
$230.24	**net gain,** with his machine **paid for.**

Read the signed statement below:

DELHIE, MINN., June 6, 1905.

"I purchased a No. 6 U. S. Separator Feb. 1, 1905, and sold cream the first month to the amount of $52.52, the product of 8 cows. The month previous to getting the Separator the 8 cows produced me about $25. This herd of cows is about the average herd, three of them being heifers. I can heartily recommend the U. S. to all who want a first-class Separator.

"H. A. DRYER."

Pretty profitable investment, wasn't it? Isn't it worth investigating? That costs you nothing. Send for illustrated Catalog No. 550-B, which will tell you *all* about it and *show* you how and why the Improved

U. S. Cream Separators

MAKE THE LARGEST PROFITS

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

413 18 Distributing Warehouses throughout the United States and Canada

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

Studebaker Vehicles

Our stock includes styles for every form of business, as well as all kinds of pleasure vehicles.

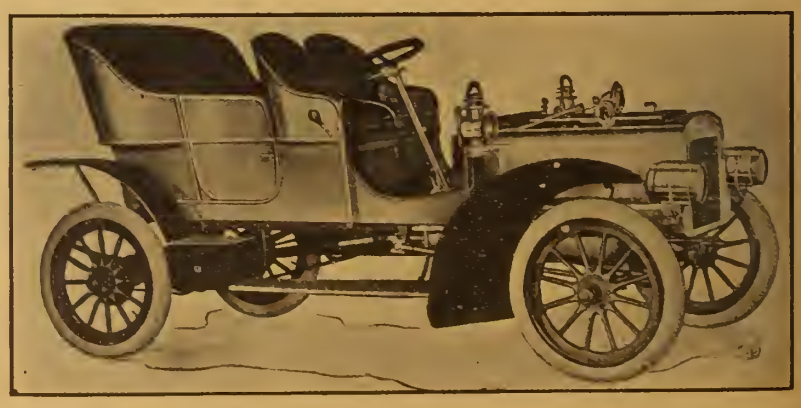
At our prices you can afford to have the best.

Newell Mathews Co.

200-202 N. Los Angeles St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Have You Seen the Moline Cars?



The most beautiful family cars on the market.
Double opposed engine, side door entrance, $1,050.
Four cylinder, side door entrance touring car, $1,700.
Call and see them.

Wm. Gregory, 602 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

WORMS IN FOWLS.

I had hoped to write on the subject of the dry feed hopper method of feeding but must postpone it for another week. Meanwhile the following letter demands an answer and as it is on a topic which may prove of help and interest to many of our readers I will make the reply longer than the Editor's Question Box could contain:

"Will you please tell me through the poultry department of the California Cultivator what will cure chickens having worms? I have killed three young White Leghorn fryers and have found both bowel and tape worms in each one. One of the tape worms was about from eight to twelve feet long. Chickens, about 200 young ones hatched this spring, are on barley field range and I feed bran, wheat, Egyptian corn, bone meal and blood meal. I have 42 ducks 11 weeks old and they are inveterate feather-pullers; especially do they keep the wing feathers pulled out. Can I do anything to overcome this bad habit? Thanking you in advance for your assistance and trusting you will be able to find space to answer soon.—C. W., San Bernardino.

* * *

Answer—Personally I have had no experience with tape worms, so I look for a reply to your queries in the books of Dr. Salmon, Dr. Sanborn, Dr. Woods and have also consulted a medical friend and feel that with all this knowledge to back me I can answer you conclusively.

Tape worms in fowls, resembling tape worms in the human family, are taken into the stomach in the shape of small tiny grubs, these having been hatched in an animal of some kind, usually beef or pork. Your fowls, I suspect, have eaten them in the meat which you have fed to them. When present in large numbers these worms cause a diseased condition known as taeniasis, which may end fatally. The following are the most prominent symptoms: listlessness, loss of appetite, the fowl mopes, and becomes emaciated. Diarrhoea is frequent.

* * *

Treatment.—The infested birds should be confined in small coops and the droppings watched to make sure that all the worms and their heads are voided. All the droppings from these birds should be burned. One of the best remedies is the fluid extract of felix mas, the male fern. From six to twenty drops, according to size or age of the bird, in a teaspoon of castor oil, after fasting for twelve hours or more. Two hours after giving the male fern, give a light mash containing for each bird one tablespoon of castor oil. Bruised garlic bulbs given after starving the birds twelve hours and then followed by a tablespoon of sweet oil will prove effective in some cases.

There was brought to the Reliable Poultry Journal office, a bottle of alcohol containing a tapeworm three feet long which came from a Golden Wyandotte hen. The worm was complete, head and all. The hen in question ate heartily but lost flesh and gradually weakened. The owner could not discover what was the matter with the hen. She had no cold, ate well, but became distressingly poor and weak. Finally he thought of worms. Acting on his theory, he kept her without food for thirty-six hours, then gave her a full feed of stewed garlic, cut in short lengths. She ate heartily of this, and the next day the owner had the three foot tapeworm in alcohol. The hen began to mend immediately, regained her normal flesh and was soon as well as ever.

* * *

Round or Thread Worms.—These are the most common and most injurious to poultry. There are about a dozen or more varieties of round worms parasitic in poultry, and most of these live in the intestines, some in the proventriculus, some in the gizzard and in other mucous parts. With the round worms the sexes are separate, the female worm generally being larger than the male. The adult worms usually live in the digestive canal. The eggs and embryo worms are usually transmitted from one fowl to another through the drinking water and food. Worms feed on the organic juices of the body, a few of them live on the blood of their hosts, but the majority feed on the fluids in the digestive canals. They have great tenacity of life, particularly in the egg and embryomic state, and can remain for a great length of time undeveloped. The most common variety of round worms affecting poultry are the white worms or heterakis, which make their home in the upper portion of the intestines near the gizzard. The round worm varies in size from one-third to five inches in length. Its color is white. The head is pointed like the sharpened end of a pencil, the tail blunt like the end of a finger. These worms develop directly from their eggs, which are eaten by the fowl. My acquaintance with these worms resulted in a loss of about two hundred and fifty fine chicks from six weeks to ten weeks old. I noticed the chicks acting as if sick. They appeared sleepy, sat in a corner, feathers dull and ruffled, head hanging down or held under the wing, listless and not much appetite; when roused and made to move they seemed stiff in the legs, and some had spasms; some were ill several days, some died after a few hours illness, or in one spasm. I was at my wits' end. I held several postmortem examinations and discovered the worms and then proceeded to try remedies. I invoked the aid of several medical works on the subject, found that most of them recommended santonine two grains, or about that for each bird, adding it to the mash and putting in half a teaspoon of castor oil for each. But lots of the little fellows were too sick to eat and I did not know which of the others had worms and which had not until it was almost too late. I had about seven hundred chicks and could

BLUE ANDALUSIANS, Eggs after Sept. 1s
MRS. J. S. DUFF, 3145 S. Hoover St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at 1903 Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 Los Angeles, Cal.
RANCH: Northeast Corner Florence and Alsmede Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A Filcher, Commissioner.
Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

not imagine what caused the trouble, for the brooder house and little yards were immaculately clean. They had been infested by neighboorhood pigeons, that not only devoured the food, (a pigeon will eat as much as a hen) but also killed some of the little chicks, picking them up by the nape of the neck and shaking them until they were dead. One day I noticed worms in the pigeons' droppings squirming on a board, and the mystery of the infection was explained, a vigorous war commenced; in one day fifty pigeons were trapped inside the brooder corral.

The chicks were all removed to fresh ground and by the advice of a doctor I put turpentine in the drinking water, thirty drops to a quart of water, renewing this three times a day, giving no other water. At the end of a week all symptoms of worms were at an end and I had no more trouble. The brooder corrals were first disinfected by a two per cent solution of carbolic acid, then air slaked lime was scattered over them; this was dug under; and then a crop of barley was planted in them, the brooder houses were also thoroughly disinfected and sprayed, and not used again for four or five months.

If I had but a few chicks affected I would give each from six to twenty drops (according to age) of turpentine in a teaspoonful of castor oil, or on a piece of bread, followed by a dose of castor oil. Santonine is also effective if given with oil. Some recommend assafetida and others garlic and I think they might prove good, but I have not tried them.

The tapeworms must be taken into the system in animal food, especially in uncooked or slightly cooked beef. I do not know if they could possibly exist in the cooked beef scrap or animal meal.

* * *

EDITOR'S QUESTION BOX.

Poultry Plant.—(A. D. S.) As an interested and enthusiastic reader of your columns in the Cultivator week by week, and from which I obtain many useful points on the care of poultry, I venture to ask for some information on the following points: (1) How many hens will a house 24x10, 8 feet high in front and 5 feet in rear accommodate? (2) What distance apart should the roosts be? (3) What distance from ground should roosts be? (4) In ventilating from foot of building would a one foot space all round the building be sufficient? (5) How many hens do you recommend keeping in one flock, and what house space for them? My hens are White Leghorns. I trust I am not encroaching too much on your time with this rather formidable list of questions, but my appreciation of your helpful hints must be my excuse.

Answer.—The amount of floor space needed per fowl will depend on the care the birds receive, the breed, the purpose the birds are kept for, and how much space and opportunity they have for outdoor exercise. Your house should hold comfortably about fifty Leghorns. They should be divided into two flocks of twenty-five each, the house also being divided. (2) The roosts should be from fifteen to eighteen inches apart and the same distance from the wall. The roosts can be two feet from the ground for Leghorns. (4) From six to ten inches all round the building is enough ventilation. Or one whole side of the house can be left entirely open. I recommend not more than twenty-five hens in one flock, as they do best in small flocks. If you could conveniently divide your roosting house into three, I think you might house seventy-five or eighty Leghorns, if they have good large outside yards.

* * *

A Poultry Plant.—(Mrs. A. W., Fresno.) Would be very glad to receive through the Cultivator plans for a five acre poultry ranch, in regard to convenience. I mean by this to have runs and roosting houses, runs for alfalfa, location of windmill or engine, feed house, incubator cellar, brooder house, walks, etc., and how many hens could be kept on such a place?

Answer.—With the limited space of the Editor's Question Box I could not do justice to this subject. You had better buy Captain Mitchell's most excellent book, "A Practical Poultry Plant," price $1.25. It contains all the plans you need and is thoroughly practical. For sale at Cultivator office.

* * *

Indian Runners.—(I. M. R.) Will you kindly answer the following questions in the Cultivator? I have started to raise I. R. ducks, but have been rather discouraged by having a neighbor tell me that there was no sale for them in Los Angeles markets. Is it true? My eggs I bought from a woman who got her eggs from you. I have a chance to get drakes from another flock which was also originally from your stock. Will it do to mate them to my ducks? Do you think I can make ducks pay where I have to buy all their feed? Am feeding a mash of cracked corn, bran and Calfalfa meal, with meat scraps. Is it true that I. R. ducks only lay nine months in the year? If so, at what time of year do they rest?

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT

Calfalfa Meal

ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings or Oil Cake meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application.

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their fuuctions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application.

MILLS
West and Nielsen Aves

California Stock Food Co.
FRESNO, CALIFORNIA

OFFICE
121 FORSYTH BLDG.

Answer.(1) There is always a market more or less good in Los Angeles for ducks or for anything; just at present there is not much demand and ducks are very unprofitable things to hold over. (2) Yes. I had four different strains of thoroughbreds, not related, so the chances are that yours and your friend's are not related. (3) No, not unless you can sell them at eight or nine weeks old, not older. (4) Indian Runners lay only nine months in the year. Mine averaged two hundred and thirty eggs apiece. They rest in September and October.

* * *

Corns—(S. A. F.) Can you tell me what to do for my chickens, as three of them have a growth, corn or something in the bottom of their feet, and a lump or two on their toes. Do you think it is caused from too high perches, or is it a disease? At any rate I lowered the roosts today. I keep the White Rocks and the White Leghorns—one Rock and two of the others are affected. If there is a remedy, would like to know it, please.

Answer.—Your chickens have corns, which will eventually lead to "bumble-foot." Corns are a thickening of the skin on the under surface of the foot, the result of long pressure, irritation and bruises. Corns are generally caused by too small or sharp edge perches, which compel the fowls to grasp them tightly in order to maintain their position. This firm grasp, continued night after night, affects the circulation, irritation and inflammation is set up and results in a thickening of the skin. A similar condition may be caused by high roosts, the birds alighting upon a stony surface or hard floor.

Treatment.—The perches should not be over two feet from the ground, about three inches wide, with round edges, the floor covered with sand or earth, so that the feet will not be bruised. The affected birds should have the feet soaked in warm water, and if the inflammation is high, a little baking soda added will help. The thickened skin should be pared off without causing bleeding, and boric ointment applied every night until the corn is cured, or the corn may be painted with tincture of iodine.

* * *

Turkeys Dying.—(M. D. G.) We have about seventy-five nice healthy-looking turkeys, but every few days I notice one seems tired and seems to grow weaker and in three or four days they die. Their appetite is good until they are too weak to eat. The droppings first look whitish, then turn yellow and even green, sometimes. The turkeys have a free run in alfalfa and grain fields, also grasshoppers in abundance. They are about two-thirds grown and seem to be doing fine until taken sick. Do not feed any grain now, as they don't seem to need it. Can it be caused by need of grit? The land is very sandy here but little gravel of any size. Can you tell me the cause of trouble and a remedy? I have been very successful in raising turkeys since reading in the Cultivator an article headed "Turkey Lore." Had been in the habit of over-feeding (as so many do who don't read the Cultivator). I find that young turkeys need but little feed when they are raised with turkey hens and range in alfalfa fields. Will salt poison fowls? My turkeys may have eaten salt in the pasture.

Answer.—I am sorry about your turkeys. I much fear it may be enteritis, a disease which usually comes from impure water, or water fouled by other animals or ducks. It is an infectious disease. I would advise you to give the whole flock pounded charcoal and plenty of grit, and for any that ail a liver pill and a pill of two grains of assafoetida. It is possible it may be the salt you mention, or the lack of grit, but I fear it is impure water. Otherwise your feeding and care seem ideal.

* * *

Turkeys.—(Mrs. J. C.) I am a reader of the Cultivator; have taken it for several years, but I have failed to find out just exactly what I want to know. I have been raising turkeys for the last two years. Last year I had thirty, this year seventy, as nice a flock of turkeys as any body wants to look at. What I want to know is this: Do you think the hens, of which I have two of last year, would be good for another year to breed from? They have laid two hundred eggs this year. Laid all the time they were hatching. Last week for three or four days they didn't lay, but this week they are laying every other day again. I never had hens lay like these do, and I am afraid that next spring, when I want them for hatching purposes they won't lay. What do you think about it? I would be very glad if you could give me some information on the price for breeding purposes. I have had several say to me, I want some of your turkeys to breed from. Last year I sold twenty-four to one man for Thanksgiving; they weighed 285 lbs. and were eight months old. I have the Bronze and the Mammoth Bronze.

Answer.—I congratulate you on your success with turkeys. I would most decidedly keep your two turkeys and also one or two of your own young females—early hatch—and get a tom. See advertisements in this paper. Or else keep your own best tom.

* * *

Fowls Dying.—(Mrs. J. M. B.) Your letters in the Cultivator have been so much help to me. I write for further information, I am so distressed about my poultry, and as I am a "tenderfoot" from the East, I don't know what to do for them. They seem to be in perfect health at the last feed in the evening, and I find them in the morning almost dead. I can see nothing to denote sickness. I have fed them well on grain, meat and vegetables. Corrals are kept perfectly clean and lime, ashes and kerosene oil used on floors and perches. Some of them are moulting, but not these that have died. If they were old hens I would not so much wonder at it, but some of them are this year's chickens and others last year's.

Answer.—I wish I could enlighten you but cannot unless you can describe some of the symptoms a little more definitely. Possibly the fowls have worms. Study my article and try to find out. Or perhaps they are getting poisoned. Has your orchard been fumigated?

* * *

Limber Neck.—(D. P. B.) I have always read your articles in the Cultivator very carefully on poultry diseases and cures, but find nothing just like mine, unless it is limber neck. I have always had good success with poultry till now, some of my pullets are afflicted one at a time occasionally. At first they don't care to eat, in a few hours they can't hold up their head. I examined them for lice; some I would find two or three lice on their head, some none. Some I greased their heads and then keep them wet, as the head seems very warm. In a day or so they would seem all right. Others I just wet the head and they got well. One seemed to have a looseness of the bowels and I gave it baking soda and wet its head and it got well, although it lay apparently dead part of the time. They stand as long as they can, and their heads hang limp. Last night one died and I opened it and examined it closely. The bowels were nearly empty, except the caecea or caecum, which was full of soft green stuff. The liver seemed natural but the gall bladder was full. The heart and lungs were all right. I feed wheat in straw in the morning, so they can scratch and Midland poultry food No. 4 at night, with about one-fourth Calfalfa meal mixed in. All they will eat, and they have cabbage most every day. They run on the 10-acre orange ranch, so have plenty of shade, but there is no weeds or green stuff. They have plenty to eat and the best of water three or four times a day in clean vessels, and good clean houses to roost in; no mites. The old hens are not affected, although fed on same feed.

Answer.—Your young fowls have what is called limber neck. This comes from a disorder of the nervous system. It usually comes from disturbances of the digestive organs, from indigestion, from worms, or from unusually hot weather. A remedy that has been successfully used is: Hyposulphite of soda. Dissolve one teaspoonful in half a cup of water, give a teaspoonful to each affected fowl every two or three hours. The following is said to never fail: Give the affected bird a piece of assafoetida about the size of a green pea. Repeat the dose the second day. It is pleasant to read in your letter how well you care for your fowls.

Cholera among fowls may be known by the greenish droppings, drooping, and intense thirst. A fowl with cholera drinks often and remains long at the fountain. When you are sure that cholera is in your flock, add a teaspoonful of carbolic acid to three pints of water, and give no other water to drink. If the fowls have indigestion, add twenty drops of nux vomica to each quart of drinking water.

The best statesmanship—self-government.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. **GLENDALE, CAL.**

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

The weather and crop conditions for the week ending August 14 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—Warm, clear weather continued during the first of the week, becoming cooler toward the close, with high fogs at night and morning in the coast districts. Desert storms accompanied by heavy rain occurred along the eastern boundary near Needles, causing washouts on the railroads.

The grain crop is nearly all harvested and threshing is progressing rapidly. In most sections the yield is below expectations and only in a few places up to average. Barley has turned out better than wheat. Oats are light in all sections. The hay crop is the best for several years, both in yield and quality. Hops made good growth during the week and in some sections prospects are better than at any time during the season; picking will become general within two weeks. Sugar beets are yielding a heavy crop in the Santa Maria district. Beans are doing well, but the outlook is not as good as earlier in the season. Corn, potatoes and vegetables are in good condition.

Grapes are rapidly maturing and picking is in progress. Raisin grapes have a high percentage of sugar and a heavy yield is probable. The heat during July injured some varieties of grapes, but the yields will probably be fully average. Many varieties of deciduous fruits are yielding better than estimated. Walnuts are improving and in some sections the crop will be up to average. Olives and citrus fruits are in good condition.

Eureka Summary.—Foggy along the coast throughout the week. Grass is green, and vegetables are in good condition. Hay harvest is mostly finished; unusually heavy crop secured. The apple crop is about average, but in some localities almost a failure.

Los Angeles Summary.—Continued cloudy weather along the coast and fair in the interior. Water plenty. Favorable reports of next orange crop continue.

THE WALNUT CROP.

According to Horticultural Commissioner L. G. Yates, who has just returned from a trip through the Lompoc district, the outlook for walnuts in that valley is very bright. The crop conditions are much better than at Santa Barbara, and there seems reason to believe that the valley may become a walnut district of considerble importance.

Mr. J. B. Neff of Anaheim, was in our office Monday and stated that in his judgment the walnut crop of Orange county would be about 25 per cent short of last year, though it would be three or four weeks yet before the size of the crop could be definitely stated.

"I often wonder," said Boroly. "what my ancestor, Adam, said when he first met Eve."

"Was he an ancestor of yours?"

"Certainly."

"Then he probably asked her to lend him $10."

CONSERVING WATER.

The experiments that have been carried on for the government at Riverside this summer by J. Edwin Roadhouse, under the direction of Prof. Fortier, to determine the amount of loss in irrigating water from evaporation, by seepage and that given off by trees, have been brought to a close. In an interview with Mr. Roadhouse this week he stated that the experiments have proven very successful, though at this time he could not give out the figures. The saving of water by orchardists through the dust mulch Mr. Roadhouse says will give water enough to irrigate all Southern California, and by this method alone the danger of a water famine can be averted. Orchardists will be interested in the bulletins on this subject.

HEAVY LAYERS.

W. W. Howard of Los Angeles, tells us that he has a pen of 30 White Leghorn 1904 hens that have laid in nine months and a half from 185 to 207 eggs each, and are still laying. This is a remarkable record. Who can beat it.

The S. J. Smith Machinery Co., of Los Angeles, has secured the contract for putting in the machinery for the new water and electric light plant at Signal Hill, Long Beach.

* * *

Another of the Cultivator's advertisers has just landed a nice contract. The Western Gas Engine company, of Los Angeles, is to furnish nine engines to the company constructing the government dam above Yuma. At first the construction company (a New York concern) had determined to use steam power, but after inspecting the gas engines of the Los Angeles firm, ordered nine of their engines.

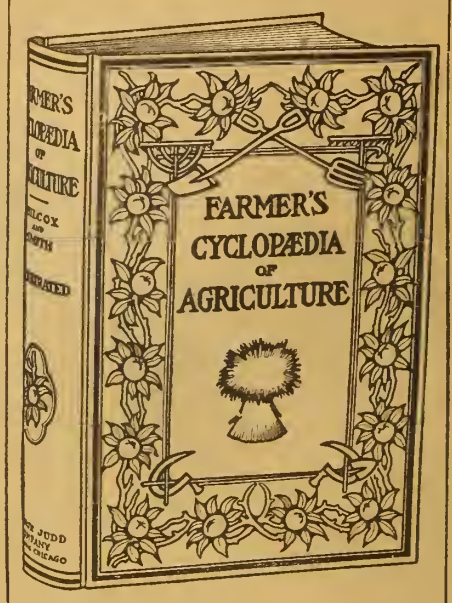
PAINTING AND PAPERING.

In preparing for painters and paperhangers, there are several things to be borne in mind. Cleaning for painting should be thoroughly done as dark marks show through. Old wall paper should be entirely removed from a wall before the new goes on. Accumulated layers of paper, each with its own store of dust and microbes, is most unsanitary. The easiest way to loosen old paper, is to set an uncovered boiler of steaming water in the room, then close doors and windows and let the steam do its work. If there is any danger of moths or bugs, stop up all cracks with putty or moistened paper, forcing the latter in with the blade of a knife.

Prepared stains for floors, furniture and woodwork are now so plentiful and cheap and put up so conveniently for amateur use that many persons like to freshen up their rooms without calling in outside talent. If one has time and strength this is usually quite satisfactory. Do not try, however, to use stains that are not mixed with oil, as they will lose color and fade instead of growing deeper with age. If preferred, stains may be prepared at home with very little trouble.

"The hen stood on the garden lot,
Whence all but she had fled;
And didn't leave a planted spot
In the early onion bed.
With vim she worked both feet and legs,
And the gardener says 'he bets
She was trying to find the kind of eggs
On which the onion—sets.'"

Farmer's Cyclopedia of Agriculture



A Compendium of Agricultural Science and Practice on Farm, Orchard and Garden Crops, the Feeding and Diseases of Farm Animals, Dairy Farming, and Poultry in the United States and Canada

Authors: EARLEY VERNON WILCOX, Ph. D.
CLARENCE BEAMAN SMITH, M. S.
Assistant Editors in the Office of Experiment Stations, United States Dept. of Agriculture

The World Moves

and whoever would not be left behind must lay hold on every means that enables him to move with it. As a basis of one's efforts nothing is more essential than the possession of a good work of reference

Adapted to the Conditions Peculiar to California and Adjoining States

The Farmer's Cyclopedia embodies in its many articles, most of the results of years of painstaking work at the California and neighboring State Agricultural Experiment Stations. It is thus, in effect, both a digest of local and state experience, and a compendium of general knowledge, all of which will prove of indispensable helpfulness to everyone in this section.

The Last Twenty Years of Progress

have measured more changes and recorded more advances in every branch of agricultural science than have been achieved during the hundred years preceding. During all these years no reference book adequately covering the subject has been issued.

The plan of this work is most comprehensive. Every article has received the most careful preparation at the hands of the authors, who have enlisted the co-operation of the highest authorities in the various departments. The greatest educators of the world, representing every branch of agriculture, here unite in one immense faculty to present directly and plainly the pertinent facts of their specialties. Every statement is authoritative and absolutely reliable.

If you wish to know about field crops, garden vegetables, fruits, nuts and other economic plants, farm animals, dairy farming, poultry, also manures, fertilizers, principles of feeding, soils, drainage, irrigation, spraying, veterinary medicines, etc, etc, it is here. Everything concerning farm matters is treated with great thoroughness, though without undue fullness. We claim for it the unique distinction of presenting for the first time, in a carefully arranged and perfectly accessible form, an accurate summary of every subject of interest to farmers, etc.

Over 6000 Topics Indexed
A Wealth of Illustrations

An important part of this work is its very complete and elaborate index, with cross-references under both scientific and common names, so that any information wanted can be found at once. There are between 6000 and 7000 topics covered in these references, making the most perfect index to agriculture ever attempted. It contains 700 royal octavo pages (9½ x 7 inches) and nearly 500 superb half-tone and other original illustrations. Type, paper, printing and binding are all in the highest style of the bookmaker's art, worthy alike of the well-qualified authors, the enterprising publishers, and the industry of agriculture.

PRICE IN HALF MOROCCO, $4.50

To Cultivator readers we make this proposition:—Fill out and sign the enclosed coupon and mail to this office and the book will be delivered postpaid at once and your Cultivator subscription advanced one year.

CUT OUT AND MAIL THIS COUPON AT ONCE

CULTIVATOR PUB. CO., LOS ANGELES, CAL.

Please enter my name for one year (NEW OR RENEWAL) and send me the Farmer's Cyclopedia of Agriculture, half morocco. For both together the price to be $5.00, which I agree to pay as follows: $1.00 on the first day of next month and $1.00 on the first of each of the succeeding four months. Until the $5 is paid in full title to the Cyclopedia to be vested in you.

NAME.....

P. O..... STATE

Queries and Suggestions

DRAINING TO REDUCE ALKALI.

We have a request from John Anderson, Hynes, requesting information as to manner of reclaiming the lands about Salinas from alkali by drainage and general information as to cost and detail of the work. We have no direct information in this particular case and invite any subscriber in that section who can supply us with such knowledge to give it to us. Meantime, we have taken steps to secure information along the same line from other sources. We may say, however, that it has proved one of the most profitable means of reclaiming alkali lands, some cases having made most valuable tracts from land which was before comparatively worthless.

PRUNING BERRIES.

Editor Cultivator: I noticed in recent issue of the Cultivator that the present is the best time for pruning blackberries and other vines. Will you kindly inform me in your next issue whether I can defer pruning until the plants are dormant in the winter and then use the stalks for making cuttings for extending my plantings? Will they take root and grow or is that not the way the vines are propagated? In others words, will they grow from cuttings at all?—J. D., Compton.

The old canes which have been bearing the fruit of this present season will be of no value to you whatever for the purpose of propagation. In fact, it will be far better for the plant to have them removed at once, leaving the new, or this year's growth, still standing. The difference between the two you may determine by the fresh, bright appearance of the new stalks and the browned and partially shriveled appearance of the old stalks. In addition the stems of the fruit may still be seen on the fruit-bearing spurs. These should be cut back to the ground and then the new cane which can still be left standing may be tied up to stakes or, if you are anxious, as you say, to secure extension of your plantings as rapidly as possible, you may reproduce the raspberries and dewberries by layering. That is, take the long, slender canes, laying them as flat on the ground as possible, and cover at the various joints with dirt. From these joints will spring small shoots and roots will be formed so that by the time the wood is hardened in the fall they will be in nice condition for transplanting. The blackberries usually furnish sufficient sprouts coming up about the plant stalks to give any reasonable number of plants.

MEASURING HAY IN THE STACK.

Editor Cultivator: Can you tell me method by which alfalfa may be measured in the stack? If you can, please give me dimensions per ton.—E. B., Mecca.

It is impossible to give the dimensions of a ton of hay exact, for the reason that condition of hay when put up, the kind of hay, whether well settled or soon after stacking, and other conditions must be considered. For instance, alfalfa hay in well settled stack will weigh more than will barley hay. But, approximately, well settled hay requires four hundred cubic feet per ton, or an average of about five pounds per cubic foot.

To secure the number of cubic feet in a stack multiply together the length, breadth and height to "eaves" (or angle where stack begins to slope) plus one-half the vertical distance from level of eaves or angle of stack to crest—all in feet. Divide product by number of feet allowed for a ton (about four hundred). Or, if slope from ground to crest is uniform, multiply together the length, breadth and one-half the vertical height, all in feet, and divide by number of feet to the ton. The space occupied by a ton of hay will vary with the depth of the mow or stack and the kind of hay, whether coarse and hollow-stemmed, or fine and compact. In that respect one's judgment must be called upon to aid in the estimate.

INTENSIVE FARMING.

Some time since the Cultivator received the following letter from a subscriber at Modesto and it was submitted to Mr. Lobingier, manager of the Barbour ranch, at San Gabriel. The letter and Mr. L.'s reply are as follows:

Editor Cultivator: Some time ago you published an article in effect that the idea so prevalent, that a man must cultivate a large number of acres was not correct. Amongst other things, you mentioned onions and berries as profitable. I would like some information, details in fact, in regard to raising onions; what kind, and how, and when to plant. I had good success in raising the red onions from seed sown in August and transplanted in February, but find a very limited market and poor price, and they tell me that is not the kind to raise, but I cannot get much information on the subject.

As to berries. My soil is not ideal, but I think I can raise strawberries and blackberries, but my raspberries are proving a failure. The young plants do finely for a while, until the hot sun and the withering, blasting California northwest winds get in their work, then the leaves blight or burn around the edges, gradually getting worse until the whole plant dies—they did that last year. Is there any help for it? They get plenty of water every week; they are Red Cuthbert.

If you will give some information or tell me where to get it, you will greatly oblige a new settler.—Modesto.

Any one who can have onions ready for market from April first to June 1st can be pretty sure of high prices for his crop. We tried to do this by sowing seed of the new White Queen. September 20th, but it was seven or eight weeks too late. The crop was not ready until July and by that time the market was overstocked and at this writing (August 10th) we still have the crop unsold. If one cannot succeed in getting the crop to mature at the date I mention, so as to sell as early onions, it would be better to grow some variety like the Australian Brown, sowing in February and have the crop mature in the early fall—when they can go on the market during the early winter. The Australian Brown is a fine keeper and popular in the market.

I prefer to sow the seed in a seed bed and transplant the young onions. While this involves a good deal of labor in the beginning, there is less weeding later on, and no thinning at all. No one should undertake to grow onions—nor any crop—on a large scale, without previous experience. Begin in a small way and learn the "know how" by practice.

I have been very successful with the variety known as Prizetaker, but it is best for local markets, as the trade classes it with the varieties that do not keep well and do not care to buy in large lots. The quality and appearance is number one and the yield enormous—under favorable conditions. Every one contemplating onion growing should get the "New Onion Culture" by Mr. Griener. It costs but fifty cents and is full of information useful to beginners. It can be had of Johnson & Musser, Los Angeles.

I hold very strongly to the view that intensive farming and gardening is the only kind that pays. It is not the area one works, but the manner of working it that counts. If I were to tell Cultivator readers that we set an acre of strawberries last August and September, and the yield thus far is 31,350 baskets, which sold for five cents per basket, average, he might think it a California story. It is; but it is a true one (31,350x.05 equals $1567.50. To produce such results one must have the right conditions and know how.

Regarding the raspberries I cannot give much encouragement to any one attempting to grow them under such conditions. The whole raspberry family delight in a moderately cool atmosphere and not to wind. I should not attempt it in any of the interior, hot valleys of California.—Q. A. L., Barbour Ranch, San Gabriel.

The San Diego County Honey Producers' Association held a meeting recently, at which they decided to store their crop of honey at San Diego, rather than sell at prices now offered. The next meeting will be held September 2d, at El Cajon.

ALL crops should be well supplied with a fertilizer rich in POTASH. The benefit will be seen in the grain and also in the crops to follow.

"Plant-Food" and "Potash in Agriculture" are two books full of interest to every progressive farmer; we will mail them to you free of all cost.

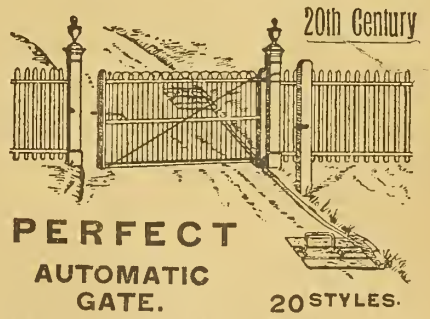
Address, German Kali Works, 93 Nassau Street, New York.

Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

RANCH FOR SALE
13 acres 2 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R D. 1 RIVERA, CAL.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 **Pasadena, Cal.**
When writing advertisers mention Cultivator.

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.
When writing advertisers mention Cultivator.



PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. ***Works 365 days each year. NO OILING***—ten minutes each year and 10 to 20 cents expense—***no more.***
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma. California

Half Rates
EAST
SALT LAKE ROUTE
One Fare Round Trip to New York, Chicago, St. Louis, Memphis, Kansas City, Omaha and all Eastern Points.
CHOICE OF ROUTES RETURNING
PORTLAND EXPOSITION—
$60.00 Round Trip, limit 90 days. Going via Salt Lake City and the famous Columbia River, returning via Shasta Route and San Francisco. Stopovers allowed.
$40.00 Round Trip, limit 21 days. Going and returning via Salt Lake City and Columbia River.
Personally Conducted Tours to Yellowstone Park, Portland Exposition and Alaska. Information gladly given at City Ticket Office, 250 South Spring Street, Los Angeles. Both Phones 352, First Street Station, Home 490, Main 4095.
When writing advertisers mention Cultivator.

Lime Your Lands
LIME, $2.50 PER TON
Time to buy. For particulars write
Home Phone 1066 H. B. MATTHEWS, RIVERSIDE, CAL.
NOTE—Business solicited ONLY between Los Angeles and Redlands and Riverside.
When writing advertisers mention Cultivator.

WELL DRILLING MACHINERY
Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.
Kelly & Taneyhill Co
Chestnut St., Waterloo, Iowa

THE VILLAGE RUBBERSMITH.

Under a spreading blacksmith sign,
The village blacksmith sat;
He heard the chuf-chuf-chuf and said,
"Where is my business at?
The road is full of horseless things,
And bikes and such as that."

The smith was deeply in the dumps;
Ah! that was plain to see.
His wink-eye winked a knowing wink
Up at the chestnut tree;
And then he said, "These horseless things
Have put a horse on me."

And through his crisp and curly hair
His sinewy hand he ran.
Says he, "I'll get some different tools.
As well as any man
I'll mend a punctured rubber tire—
I'll charge whate'er I can."

Week in, week out, from morn till night
His bellows blows no fires.
Instead it feeds a rubber tube,
That blows up rubber tires.
He has a tank of gasoline,
And cement, pipes and wires.

And children coming home from school
Rubber in the open door,
They rubber at the rubber tube
A-rubbering 'round the floor,
They rubber at the rubbersmith,
Who rubbers tires that tore.

He can't go, Sunday, to the church
For that's his busy day.
Some city chauffeur's in the lurch,
And here is work—and pay
The chauffeur buys some gasoline
And chuf-chufs on his way.

But never mind, his daughter's there,
Up in the choir stand;
And as she holds the hymn-book high,
Shows diamonds on each hand;
For daughter's buying jewelry
And Dad is buying land.

Repairing and pumping and mending;
Onward through life he goes,
Each morning sees some tire break,
Each evening sees it close.
Something mended, somebody done,
Puts money in his clothes.

Thanks, thanks to thee my worthy friend,
On the lesson I'll meditate.
All must at times get different tools,
This world will never wait;
If we would live the strenuous life,
We must keep up to date.

—J. N. H., in Metropolitan.

Told by the Schoolmaster

"Good morning, Ralph."

"Good morning, Mr. Blackman," I responded, in tones as cordial as the greeting of the principal of the Northville grammar school, adding pleasantly, "For a schoolmaster you look very happy."

"I am happy this morning, Wintersvale; verily, the happiest man in the commonwealth, I believe. If you were not a newsgatherer, ready to put everything you hear into type, I would tell you about it, for I do not forget that you were for years one of my boys; yes, and one in whom I was especially interested," he said, giving my hand an earnest pressure.

A flood of pleasant memories carried me back to my schoolboy days, and I said warmly, "Thank you, Mr. Blackman; but please don't think all that is told men goes into type. Long ago my conscience decided the battle between fidelity to a paper and fidelity to a friend. I have never betrayed a confidence, and I never shall!"

"Then Ralph Wintersvale will succeed," said the master, earnestly. "It it not far to the school house," he continued, "so come up to my office and I will tell you a story. A part of it, as you will perceive, is not for the local paper, but outside, if the telling will benefit you any, repeat it and welcome.

"Did you know Mark Dittman?" he asked, when we were seated in his cozy office.

"No, sir, but I have heard of him,' I answered.

"Yes, I guess you have," he chuckled, "and are destined to hear a great deal more; but what I am going to tell you now, Wintersvale, is the cause of my happiness. Some poet says:

"Each life has moments that are never forgot,
Which brighten and brighten, as time steals away;
They give a new charm to the happiest lot,
And shine on the gloom of the loneliest day!"

To my mind the sentiment is perfect. Just such moments in my life occurred fully fifteen years ago. I was delving hard at my office work on the morning the fall season opened, when Miss Turnbull entered: 'I am at a loss what to do,' she said. 'A great overgrown boy is here from some district school. In point of years he certainly is old enough for my class, but as to his mental development, I wish you would be the judge. He has but one answer to everything—"I dunno,' and he looks "I dunno," too,' she ended, rather ungraciously for her.

"Now, Wintersvale, I have always held to the idea that there is no such a thing as a dull boy. Who is he, anyway? Ask a chemist and he will tell you he is a boy whose brain cannot absorb the infinite complications of chemistry. A carpenter will answer that he is the boy who lacks the knack of handling tools; and so on down the whole string. Each man would say that he is the boy who is unable to master that individual's specialty.

"To me, there is no 'dull boy,' nor have I ever heard of an instance of so called dull boy, where it did not turn out a case of someone trying to fit a square peg into a round hole.

"'Send him to me,' I said, and when he entered I saw at a glance that Miss Turner's picture was hardly overdrawn. I realized that the lad through various causes, had reached that deplorable point where self-effort ceases, but in full sympathy with him, and determined to make him think himself capable, I said cheerily, "Good morning, my lad, what is your name?'

"'Mark Dittman,' he replied, rather sullenly.

"'Come,' said I, drawing a chair close to mine, 'sit down, please, I want to chat with you. So you are a country boy?'

"Glancing suspiciously at me, he answered, 'Yes, sir.'

"'Good,' said I cordially. 'I am always glad to meet country boys.

'I was born and brought up on a farm, and I know the work from the milking and chores before breakfast to milking and chores after supper. How old are you?'

"'Fifteen,' he answered, with some show of interest.

"'I as sixteen when I took this motto:

"'Work with all your might for what is right;
Work the best you can for God and man!'

and all that I did was with one aim. Shall I tell you that aim?' I asked.

"'Yes, sir,' he replied; and, Wintersvale, there really was not one trace of dullness in the eyes that met mine!

"'It was,' I continued, 'to do everything better than anyone else could do it! Are you to stay in Northville?" I asked.

"'I dunno,' he answered, more from force of habit, I thought. 'Father had a farm. The forest fires burned us out last month, so we came here because he got a job as fireman in the rubber-works.'

"'Do you like it here?'

"'I don't like the boys," he replied. They call me—Death—and—and—

"'And what?' I asked gently, for his lip quivered as he hesitated.

"'They call me stupid!' the poor fellow answered despairingly.

"'I laughed outright. 'Dittman, said I, 'they used to call me stupid, too!

"Not a word did Dittman utter, but his smile spoke volumes. Then I changed my tactics, and asked:

"'What do you aspire to, Dittman?'

"'I dunno. Nothin'. I guess. It ain't the boys alone; everybody calls me a poor stick!'

"'Come,' said I, 'don't mind what anybody says! Have an object in life, and, despite everything, go ahead! My object was to become a teacher. I attained my object. Every living boy, deep down in his heart, aspires to something. Now, Dittman, tell me what you would like to be ,as a man, you know."

"'A fireman,' he finally answered.

"'Like your father?' I asked, somewhat disappointed.

"'No, sir. A real fireman—a fire-fighter—and where, sometimes, maybe, you can save a couple of people from burning up!' and his words came with some spirit. I grasped his hand and said, 'Nobly spoken! Dittman; that is something to strive for, and I will help you attain it!" I then impressed upon him the necessity of an education. I spoke to him of the help his heavenly Father would give him and soon he was a new boy! I learned that he was fond of baseball, and then I want with him to Miss Turner's room.

"'Boys,' I said on entering, 'I have a new mate for you—my friend, Mark Dittman. If your ball team wants a good substitute, call on Dittman, and if he does not make good in the field and meet the ball fair and hard three times in five when at bat, then say I am no judge of a ball player. I take it in all your sports you will find him so full of grit that he will soon earn the nickname, "Sandy." Who gives three cheers for our new scholar?' I asked, in closing; and, Ralph, those boys responded nobly, three times three, and a tiger!

"I so arranged matters with Miss Turner that Dittman did not recite orally for a time, nor did any classmate have knowledge respecting his work. After school each afternoon I ferried him along, noting with delight the daily development. It was wonderful! Then, too, in school athletics, he made good my prophecy. He was imbued with one spirit—to do everything better than any other boy could do it, and his nickname 'Death,' was soon lost in the well-earned 'Sandy.'

"Beside all this a greater reward awaited me. He was a born leader. He hadn't been in the school many weeks before he had organized the boys in the upper classes into a fire brigade, his own idea. The lads were fairly wild over it, and their practice work was so interesting and exciting that soon not a boy in school but was eager to belong. Why, they even had a 'pony' company of fourth reader youngsters. All worked with a vim, and the exercise and recreation which it furnished proved of great benefit

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trade-marks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phone 347
When writing advertisers mention Cultivator.

HELP!
Settle Your Own Country
The
Santa Fe
is doing its share in trying to send more farmers to your country. You can help that work by a little effort.
Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.
Send list this week to
WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago
When writing advertisers mention Cultivator.

Sievert Oil Burners
Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.
1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

to them in their physical development.

"This was fifteen years ago, you know, Ralph; and in those days Northville had neither fire engines nor professional fire fighters—our fire department consisting of some fifty or more call men, a few antiquated hand tubs and a ladder wagon. So the parents nodded approvingly at the idea of a boys' fire brigade, and, therefore, the school committee erected on the school grounds a three-story drill tower, the lower floor of which was used for the storage of the boys' fire apparatus—a few short ladders, fire belts, guns, harnesses, nets and such; and as some enthusiastic professional from the Centerville fire department was always on hand on drill days to show the boys the then up-to-date methods of battling with flames, it was wonderful how quickly the boys became quite proficient in the use of their various apparatus.

"I had early seen the advantages accruing from a knowledge of fire fighting, and had encouraged the boys to the extent of several times—on warm days—during that winter, letting the entire school take part in the fire-net drill. With a proper grip on the steel rims of the nest—a skill acquired only by practice—I had Dittman have the net squad stand under the different windows of our lower floor, and our girls and even the teachers were also taught how to jump into the net in such a manner as to alight on their feet. This may seem simple, but it is really, even for a boy, a difficult task to perform.

"Well, Ralph, now about my reward.

"It was an intensely cold morning late in March. Our school building was a three-story, flat-roofed, wooden structure, the two lower floors being divided into our eight schoolrooms, the third floor being used by our militia company as an armory.

"On the morning mentioned, our janitor had got in early, and by school time had the building comfortably warm for us. Then, leaving his furnace drafts wide open, he went to breakfast. His furnace probably got overheated. I was rummaging in our stockroom on the third floor, and intent on my search for a certain book I required, I noticed nothing unusual until I smelled smoke. I rushed into the hallway to investigate, when my worst fears were realized.

Not only was our building afire, Ralph, but a seething mass of flame was sweeping up the stairway. There was no escape for me in that direction, so I dashed up the belfry stairs, and, although nearly stifled by smoke, I pulled the bellrope with a fervor that made the old bell arouse all Northville; but of what avail? The Centerville railroad company had hired all our available horses to use in carting away the snow in the streets, and so the 'Northville fire department' was unable to bring their tubs and ladder-wagon!

"That was the lesson, Ralph, which gave this section a modern fire department.

"It seems some one of the teachers first discovered the fire; it was then confined to the basement, and, believing the boys' brigade capable of coping with it, she quietly summoned Mark Dittman, whom the squad has chosen their chief. Here the leadership in that boy asserted itself. He summoned his brigade, sounded the dismissal signal and got to work. But the fire was under great headway, and almost before the primary class had marched out, escape by the front door was cut off by the flames. The rear door led to the basement; and right here, Ralph, the net squad of the boys' fire brigade did yeoman service. All had confidence in the boys, and, although the jumping was now from the second story windows, there was no confusion. Not a life was lost!—not one!

"I was quickly driven by flames and smoke to seek safety on the roof. There was no visible means of descent, so I went to the side of the building not yet enveloped in smoke and gazed upon a scene I shall never forget, for the youthful fire laddies were already at work, and I witnessed scores leaping into the nets; so to attract attention to myself and my plight, I tossed my cuffs, one after the other, down into the crowd of boys.

"A cheer such as only school boys can give rose above the roar and crackling of the flames, and one boy came running toward the building. By using his scaling ladder, he climbed up the side of that building. As the teeth of the huge steel hook of the ladder caught into the gutter, I leaned over to assist my rescuer. It was Dittman.

"'I'm all right, sir!' he called to me, from where he stood on the window sill below, and the next moment he was on the roof.

"'Turn about is fair play, Mr. Blackman!" he called cheerily. 'You helped me; now it is my turn.'

"Over his shoulder was a long coil of rope, and as he quickly fastened one end of this around the base of the chimney for an anchorage, I heard him mutter firmly:

"'Work with all your might for what is right;
Work the best you can, for God and man!'

My own life motto—God bless him!

"He turned to me, as with a snap he fastened the other end of the life line to the belt around his waist. 'There's no danger to you, sir. Hang on to me, and, God helping me, I'll do the rest!' He tossed the slack rope toward the ground, and then the great fellow gathered me under one arm. A fervent inward prayer on my part, a slide off that roof, a dangling in mid air, and then, unharmed, I stood on the ground! It was a daring piece of work, and close indeed had been my escape from a horrible death, for soon the entire building was a mass of ruins.

"Now, why am I so happy this morning?' continued the old schoolmaster, as, wiping the tears from his eyes, he drew from his pocket a leather bill book. "Read this. All but the first part of my story you may give to your News. Ralph, I have said, 'Each life has moments that are never forgot.' I never forget my first meeting with—— But read this, the grand climax, as it were. Where is the dull boy, eh?"

"I took the telegram addressed him from a great western city. It read:

"Just appointed chief of fire department. Your motto always spurs.

DITTMAN."

—Epworth Herald.

JOHNNY'S GUN.

Johnny had a little gun,
Its voice was loud and strong,
It went off very suddenly
And Johnny went along.

Cookery Recipes

Cucumber Pickle—A reader who receives help from the Cultivator, reciprocates by sending in another cucumber pickle recipe. She has used it for years and it is entirely satisfactory: 2 qts. water, ½ teacup salt. Boil. Pour over 1 gallon pickles. Stand 24 hours. Rinse in fresh water and drain; put in kettle and boil 5 minutes or till all are scalded in a weak vinegar; skim out into cans or crocks and cover with a strong vinegar in which has been boiled ½ cup sugar, ½ tablespoon ginger, a few little onions and three or four little peppers, ½ teacup horseradish root cut fine, ½ teaspoon tumeric; pour over pickles while still boiling and seal. A little alum will serve to make them hard.—Mrs. G.

* * *

Cheese Omelet.—Two eggs, one tablespoons melted butter, one tablespoon grated cheese, two tablespoons water, seasoning. Beat the eggs, add water and seasoning. Melt butter in omelet pan, cook eggs till firm, fold and sprinkle with grated cheese.

* * *

Cream Waffles.—Put into a bowl two cups of sifted flour, three and a half level teaspoons of baking powder and half a teaspoon of salt. Beat the yolks of two eggs and add to them one and one-quarter cups of milk and then the flour mixture. Beat until smooth one teaspoon of melted butter and the whites of two eggs whipped stiff. Cook on a hot, greased waffle iron and serve with maple syrup. The waffles should be thin and crisp.

* * *

Breakfast Puffs.—Mix half a cup of water with half a cup of milk. Pour this gradually over one cup of flour, adding a pinch of salt. Beat until smooth, then add one stiffly whipped egg. Fill hissing hot, greased gem pans two-thirds full of the batter and bake thirty-five minutes in a quick oven.

* * *

German Puffs.—Cream one-half cup of butter, add gradually one cup of fine granulated sugar, then the yolks of three eggs unbeaten. Beat the mixture until very light and frothy; now add one cup of milk and two cups of flour, into which two level teaspoons of baking powder have been sifted. Bake in well buttered hot roll pans about twenty minutes. Serve as soon as taken from the oven, with foamy fruit sauce.

* * *

Date Gems.—One cup chopped dates, one-third cup butter, one egg, pinch of salt, two cups of flour, one cup of milk, two teaspoons baking powder. Sift together the flour, salt and baking powder, rub in the butter and dates, mix these in well, and make to a batter with the egg and milk. Bake in hot, well greased gem pans in a quick oven.

"It's funny," said the little pig,
"They didn't build me right,
And make my stomach just as big
As is my appetite."

A GOOD JELLY BAG HANGER.

Editor Cultivator: A hint to the housekeeper: Take two pieces of pine one by two inches, one being about eighteen inches long, and the other twelve. Bore a half inch hole about an inch from one end of long piece (this for the purpose of hanging on a nail), then nail the end of short piece to middle of long piece at right angles, using slender nails (No. 6 finish or box) so as not to split the end. Then take a piece of heavy iron wire (about ¼ inch) 22 or 23 inches long, and bend an inch of one end to slight angle and fasten to top of long stick with staple, bring down to end of short stick and fasten with staple or small nails, and then make a hook with rest of wire. Hang on a nail over sink or kitchen table. This beats a broomstick and two chairs all hollow. —C. S., Fullerton.

Another hint for the same purpose is to take the socket of the ordinary cheap bracket lamp for a basis of a strainer holder. If handy screw on wall near sink or near where wanted. If not, screw on board in which is hole for hanging. Then take strong iron rod, say quarter inch, or as large as the socket of the bracket will take in, and bend at an angle, either right angle or acute. The end which goes in socket, say, an inch long, the other twelve or more inches, as may be desired, with a bend-up for hook at lower end.

HOMELY HINTS.

For a burn take the white of an egg. By excluding all air and forming a covering over the burn the pain is instantly relieved.

ABOUT ANTS

Around chicken coops, barns and other outhouses, ants may be a positive pest. A bottle of K.A.P. means extermination Sent prepaid, by express, only, 40 cents.

KELLOGG'S ANT PASTE CO.
1010 E. NINTH ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

FROM OREGON TO MAINE

The California Limited Log-Book:

From Portland, Oregon, to Portland, Maine,
There is nothing to compare with the Santa Fe train;
Take the "Limited" either East or West,
You're sure of comfort, pleasure and rest.

CHARLES ANCHOVITIS.
April 20, 1905.

SANTA FE IS THE WAY

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

Tender feet should be bathed in alum water. If colored hosiery is worn have the soles and heels white. Tender feet are made more sensitive by the dyes used in the stockings.

After exercising or bathing when the pores are open and the skin is in a glow, do not rush out into the open air or into sudden changes of temperature.

When vegetables cook dry and scorch or burn set the vessel at once in a little cold water, and they will taste very little, if any, of the scorching.

To clarify strong lard or butter, heat it and cook in it a sliced raw potato.

A GOOD GARDEN.

The pleasures from a good garden can hardly be estimated whether it be of vegetables or flowers. We wish more of Cultivator homekeepers would give their experience with the garden. It may be remembered that "Rebecca" wrote for some information some months ago and confessed to perfect ignorance of California conditions, being a Simon-pure "tenderfoot." But open eyes and nimble fingers have accomplished much since then in the garden. Note the following record of progress:

Dear Cultivator: Do let me say dear! for you have surely been a friend to the cultivator of this little ranch since last November, when my subscription commenced. This little ranch, which you dubbed "The Tenderfoot," is getting prettier every day, thanks to your many kindly advices. If I am in a quandary, and I am in many, I just wait until Saturday comes, and with it my paper, and I am sure to find in its columns a solution to my difficulties.

Last week I was wondering how to treat my chrysanthemums, when your suggestions came. Just what I wanted. Now I was thinking over my vines, which are just as luxuriant, and here comes all your good advice along that line. Do you wonder that I want to say dear? My only trouble is, with all your good suggestions, I just want to work myself to death, and make everything more beautiful every day. Not one cent has been paid for our vegetables since March. Strawberries planted in January have given us fruit steadily until now I am forcing a rest by withdrawal of water. My blackberries, Loganberries and raspberries are making pretty, green trellises. Next year I suppose they will give us fruit. The fruit trees of every kind have doubled their height in this first season, and I just look at them all in admiration.

You say, "will, work and water" will accomplish anything in California, and I am sure it will form my experience of this year.

I am busy putting away a long string of onions, dried okra, beans of several kinds, and many gallons of cucumber pickles. The tomatoes will be canned as they grow more abundant. All of these from our garden, and ducks, chickens (and I am sorry I can't say turkeys, but they have gone to a better land, save one, which we are counting on for a Christmas dinner). I am sure we are not ashamed a little bit of our "tenderfoot" farm.

I have rejoiced in sending several baskets of lovely vegetables to my neighbors and must confess to a broad smile of satisfaction as they praised them. I always say to them you may thank the California Cultivator for never was there a greener mortal than yours humbly at the beginning of this year.

Don't think for one moment that our thoughts all go to the eating question alone, for our flowers are simply wonderful in their growth and luxuriant bearing. I am busy saving seeds of all kinds for larger ventures another year, and know you will send me your good wishes for success.—Rebecca, Pasadena.

Surely the good wishes always; but, better, in this case, congratulations.

Los Angeles Markets.

Los Angeles, August 16, 1905.

Butter.

B. of T. Creamery	57½
Valley Creamery, fancy	55@57½
Coast Creamery	47½@50
Fancy Dairy	45½@47½
Cooking, per lb	17@18

Cheese.

Cal. 3-lb. hand	15¼
Cal. Young America	14¼
California Anchor	13¼
Northern	12½@13
Eastern	16
Domestic Swiss	16½
Imported do	27½

Eggs.

Eggs are slightly firmer and higher quotations than last week by a fraction of a cent a pound. Receipts are somewhat lighter.

Eggs, fresh ranch	29@30
Eastern and Storage	25@26
Seconds	21@22

Poultry.

Poultry is considerably stronger and slightly higher quotations all along the line. Turkeys, live, are still quoted at sixteen and eighteen cents, though offers for dressed stock are freely made at twenty-three and a half to twenty-four. The live stock coming in at this time is said to be very light, requiring fattening before up to the demands of this market.

Fryers, 2½ lbs	13@14
Broilers, under 2 lbs, per lb	13@14
Young Roosters, per lb	13@14
Hens, per lb	12
Ducks, per lb	10
Turkeys, per lb	16@18
Geese	11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	6.00
Prime Steers, cwt	4.00
Cows, cwt	3.00
Calves, cwt	4.75
Sheep, ewes, per head	3.50
Lambs, do	3.00
Wethers, per head	4.00

Potatoes.

Potatoes are still firmer, though northerns are quoted at the same price as last week. Large quantities of fine stock have been received from the north and the better grade of locals are being offered, but with it all quotations on locals are much higher than last week.

Northern, per ctl	1.25
Locals, per ctl	75@$1.25
Sweets, white, per cwt	$2.50
Sweets, yellow	$2.50

Vegetables.

The only feature in the vegetable market is in a big increase in summer squash, which have been increased to twenty-five and forty cents. Cucumbers are also much higher, ranging now from thirty to forty cents. Cabbages are almost out of the market and will command today double last week's price, if they can be had. One dealer said that seventy-five cents would be quickly offered, if a load should come in. Tomatoes show a wide range of values, running from fifteen cents to fifty cents and even higher. Some very nice stock is being offered which is commanding the top quotation.

Onions, yellow, per cental	85@1.00
Onions, Silver Skins	90
Beets, per 100 lbs	75
Cabbage, per sack	75
Parsnips, per sack	60@65
Bell Peppers	3@4
Cucumbers, per crate	30@40
String Beans	1½@2
Wax Beans	2@2½
Green Onions, doz bunches	20@25
Carrots, doz. bunches	25@30
Turnips, doz. bunches	25@35
Garlic	20
Peas, per lb	5@6
Rhubarb, per lb	04
Egg Plant	4
Chili Peppers, green	3@4
Chili Peppers, dry	15
Tomatoes, local	15@50
Asparagus	8½@10
Parsley, per doz bunches	30@40
Summer Squash, bx 20 lbs	15@40
Green Corn, per sack	50@1.00
Lima Beans	3

Citrus Fruits.

Valencias	$2.00@3.00
Lemons, standard	1.00@1.25
Lemons, fancy	2.00@3.00
Grapefruit	1.00@1.50
Grapefruit, seedless	1.25@2.00

Fresh Fruits.

Strawberries	4@6
Blackberries	5@6
Logan Berries	5@6
Apricots, per bx., nominal	
Peaches, p r box	50@75
Nectarines	65
Plums	75@$1.25
Figs, per box	50@75
Grapes, Thompson's Seedless	50@75
4-Tier Alexanders	1.25
Muskmelons, ponies	60@75
Do. large crates	1.50@1.75
Watermelons, per lb	½@¾

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	2.75@2.85
Small Whites	3.15@3.35
Black Eyes	2.50@2.75

Nuts.

Almonds, paper shell	18@20
Almonds, soft shell	18@20
Peanuts, California	5@6
Peanuts, Eastern	7½@9
Walnuts, No. 1 softshells	14@15
Walnuts, hardshells	10@12

Honey

Honey, comb, frames	10@15
White strained, per lb	5@5½
Amber	4@5
Beeswax	23@25

Hay.

Barley, new	8@12
Alfalfa, local new	$10@11.50
Alfalfa, no thorn	10@11.50
Wheat, new	10.00@11.00
Tame Oat, new	$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.50@1.55
Barley	$1.00@1.02½
Corn	1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	1.25
Feed Corn Meal	$1.60
Middlings	1.40
Cracked Corn	$1.55
Corn	$1.50
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

San Francisco Markets.

San Francisco, August 16, 1905.

Dairy.

Supplies in the butter market have not been over plentiful. Trading is closely confined to filling routine orders. The best grade has advanced one cent and all the better grades are firm at figures quoted.

BUTTER—Per lb:

Creamery, fancy	25	
Creamery, good to choice	22	@23
Dairy, choice	20	@21
Store	17	@18

CHEESE—Per lb:

Cal. Creamery, mild new, ex.	11	
Do, choice	9	@10
Young American	12	@13
Eastern, N. Y. Cream	15	@16

Eggs.

Eggs have advanced from one to two cents with the upper grades of ranch leaning toward easiness, as buying has been of moderate proportions.

Ranch, selected large	32	@33
Ranch, good to fancy	28	@30
Store	18	@23
Eastern, extra	24	@25
Eastern, firsts	21	@23
Eastern, seconds	18	@20

Poultry.

The poultry market has been active in all demands, interest centering on prime hens and large young stock. Eastern poultry sold off well at good prices.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $6@7; Fryers, $4@5; Broilers, $2.50@3.50; Hens, small, $4@5; large, $5.50@6.50; Live Turkeys, per lb., 19@22c; Spring Turkeys, 25@27c; Ducks, old, $4@4.50; young, $4@5; Geese, per pair, $1.75@2; Goslings, $2; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@1.75.

Fresh Fruits.

Apples, per box, fancy, 85c@$1.25; common to choice, 40@75c; Crab Apples, per box, 75c@$1.75.

Figs—Per box, Black, $1@1.50, as to size of package; White, 75c@$1.

Pears—Per box, Bartlett, 75c@$1.50; bulk, per ton, nominal; other varieties, per box, 50c@$1.

Peaches—Per box, 40@60c; carriers 65@85c; Mountain, 65@90c; open boxes, 50c@$1; bulk, per ton, nominal.

Plums and Prunes—Per small box or crate, 50c@$1, as to variety; open boxes, 40c@$1; bulk, per ton, nominal.

Nectarines—Per crate or box, nominal.

Quinces—Per box, 50@65c.

Grapes—Per box or crate, Seedless, 40@90c; Fountainbleau and Sweetwater, 35@75c; Muscats, 75c@$1; Blacks 75c@$1.

MELONS—Cantaloupes—Per crate, River, $1@1.50; Watermelons, per doz, $1@3.50; Nutmeg Melons, 35@60c.

BERRIES—Blackberries—Per chest $1.50@3.

Raspberries—Per chest, $6@9.

Strawberries—Per chest, Longworths, $6@8; large varieties, $3.50@5.50.

Huckleberries—Per lb., 6@8c.

Vegetables.

VEGETABLES—Tomatoes, per box, 35@65c; Green Peppers, per box, Chile 35@65c; do, Bell, 40@75c; Okra, per box, 75@90c; Garden Beans, per lb., Green, 1½@3½c; do, Wax, 2@3c; Lima, 8@9c; Garden Peas, per lb., 3@4c; Cucumbers, per box, 20@35c;

Summer Squash, per box, 25@40c; Egg Plant, per box, 50@75c; Garlic, per lb., 5c; Green Corn, per sk, 50c@$1.25; per crate, $1@1.50.

ONIONS—Per sk, Yellow, 70@90c.

Dried Fruits.

General market for dried fruits is very strong. Both prunes and apricots claim the principal interest. Prunes are strong with growers demanding three and three-quarters cent basis throughout the Santa Clara valley.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, 1905 crop, fancy, 7½c; choice, 6¾@7c; standard, 6¼@6½c; Sun Dried, nominal.

Peaches—1905 crop—Crawford, fancy, 8½@8¾c; choice, 7½@8c; standard, 7¼@7½c; Muirs, fancy, 8¾@9c; choice, 7¾@8½c; standard, 7½@7¾c.

Prunes, 1905 crop—Sack basis, f. o. b., for boxed goods add ¼@½c; four-size basis, 3¼@3¾c; old crop, 2¾@3c.

Apricots—1905 crop—Royal, fancy, 8¼@8¾c; choice, 6¾@8c; standard, 6¼@6¾c; Moorpark, fancy, 12c; choice, 8@9½c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

Honey and Beeswax.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

Hops.

The price of desirable old crop is nominal at 15@20c per lb., according to quality, new, 1905 crop, 14@16c.

Beans and Seeds.

BEANS—Prices per ctl. for sound selections; Large White, $2.75@2.90; small do, $3.50@3.75; Pea, $3.25; Limas, $5.50@5.75; Red, $6.50@8; Pink, fancy, $3.65@3.90; recleaned, ordinary to choice, $2@2.50; Bayos, $4@4.50; Blackeyes, $3@3.25; Red Kidneys, $4@4.50; Rain damaged lots of all descriptions offering from 50c@$2 a ctl below foregoing figures, according to condition.

Live Stock.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@5½c; rough heavy, 4¼@4½c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $7.50@13.50; Wheat and Oat, $7@12.50; Oat, $6@11; Barley, $6@9; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6.

New Crop—Wheat, $9@13.50; Oat, $7@11; Wheat nad Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $21.50@22.50.

COCOANUT CAKE—In lots of 10 tons. $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@28.50.

Flour and Cereals.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.35@$1.42½ for new crop; old higher; White Milling, good to choice, $1.45@1.55 for new and $1.60@1.65 for old.

BARLEY—Choice, No. 1 Feed, $1@1.05; some fancy up to $1.06¼; off grades, 97½@98¾c; Shipping and Brewing, $1.05@1.10; Chevalier, $1.10@1.25.

OATS—Good to choice White, nominal; Red, $1.20@1.40 for new crop; Black, for seed, $1.40.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small do, $1.55@1.62½; White, $1.37½@1.42½; Eastern, Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.40.

RYE—Good to choice, per ctl., nominal; new, $1.47½@1.50.

CITRUS MARKETS

The shipments of citrus fruits from Southern California show that the season is nearly over. Up to date there have been nearly 28,650 cars of oranges and lemons sent out. Of this number, about 2700 cars were lemons. The shipment of fruit consists of about twenty cars of oranges daily and from five to fifteen cars of lemons. The large amount of lemons which have been held in the packing houses for the higher prices have all been cleaned up, the shipments now being sold as they are picked from the trees, and are sent out as quickly as they can be cured. Not for many years has the lemon grower received as good returns as he has during the last two months. The returns on Valencias and Mediterranean Sweets have also helped to raise the average prices for the season on oranges. The prospects are that the market will hold up as long as the hot weather in the East continues and allow all the remaining fruit in the State to be shipped out at remunerative prices.

New York.

Sales of California fruits in the New York market Monday were very light, only three cars of oranges and two cars of lemons having been sold. Judging from the active demand at the sales, stocks must be getting pretty low. The markets were active and prices a shade higher, fancy grades of Valencias ranging in price from $4.85 to $6.60. Choice grades brought from $4.25 to $6.30, the higher prices being for stock in good condition and packed strictly up to grade. One car of choice lemons in good condition averaged $5.27 per box, which showed the strength of the market.

On Tuesday five cars, consisting chiefly of Valencias, were sold at auction. Extra fancy fruit sold as high as $6.60 per box, the choice grades bringing $4.40 to $5.80. St. Michaels found ready sale, fancy bringing an average of $5.25 per box. Fancy grapefruit brought $5.30 per box.

On this day 28,000 boxes of Sicily lemons were sold, the market being strong on that variety. Prices ranged for fancy 300s $5.85 to $6.50; choice 300s, $5.50 to $6.00; fancy 360s, $5.75 to $6.20; choice 360s, $5.10 to $5.85.

Four cars of oranges and one of lemons were sold at auction Wednesday. Prices ruled very firm. However, some brands did not command as high prices as formerly, but results were satisfactory.

Boston.

The Boston market has held up fully as well as that of New York. On Monday, five cars were sold, orchard run Valencias realizing an average of $4.80 per box. Standards, lemons, brought as high as $4.85. Choice grapefruit sold up to $5.85.

On Tuesday there were but two cars of fruit offered, one of Valencias, the other of lemons. Extra fancy Valencias sold at an average of $5.50 per box. Extra choice brought $5.35. Choice lemons sold for $4.60.

California oranges took another advance Wednesday, carrying prices up as high as $6.05 per box for choice Valencias.

Philadelphia.

The Philadelphia market remains steady and firm on good stock. On Monday two cars of lemons were sold the choice grade realizing $4.80 per box, while the standards brought $3.90, the later being in poor condition.

Chicago.

The demand is very good. Offerings moderate. Lemons ruling very firm. Late Valencias, extra fancys, brought $5.00 to $5.25 per box. Small sizes, twenty-five per cent discount. Grapefruit sold for $2.75 to $3.00.

Lemons were firm but demand not very strong. California fancys, 300 to the box, brought $6.50 to $7.50; 360s brought $6.50 to $7.50; larger sizes sold at from thirty-five to seventy-five cents discount. Not many oranges were offered. Late Valencias brought $4.50 to $5 for regular sizes and fancys brought as high as $5.25. Grapefruit, $2.75 to $3.00.

THE AQUARIUM.

The aquarium introduces us to new scenes, hitherto hidden from our view, makes us acquainted with the economy of creatures of whose very existence many of us, not altogether unlearned in the history of the world, were previously ignorant. Their habits of feeding, of moving, and burrowing; their battles, their changes of form, the display of even a strange intelligence, working its way by wonderful means to wonderful ends, impress the observer with an idea of the boundlessness, the variety, the adaptations and resources of a world brimming with life, in all manner of strange forms and developments. Here we see them equipped and armed for battle against each other, the strong destroying the weak, yet each contributing its part to the preservation of the whole, just as in all other departments of nature the great balance of perfection is sustained by incessant and intestine war; the struggles of opposing elements, and powers, and beings, all working mysteriously in a manner independent of isolated circumstances—nature, the prodigal mother, setting no value upon individuals, but regarding tribes and races as paramount, the whole seeming confusion tending to one great end—the revolution of the mighty wheel on which the creatures are painted as signs, and in which ages are but minutes in a revolution which itself is eternity.

The Southern California Fruit Exchange announces that it will soon establish a selling agency in London. London now uses about 750 cars of oranges weekly, mostly from the Mediterranean.

The exports of butter from Humboldt county for the first six months of 1905 was 131,348 pounds heavier than for the same period of last year. The increase in value was $34,348.

The lemon growers of Whittier netted $2.30 per box for June shipments. For July and August the price is expected to go even better.

IN WOMAN'S BREAST

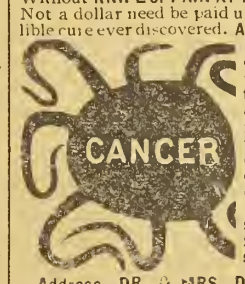
ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.



Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.

Please Send to Some One with Cancer

Santa Fe

Back East Excursions

ROUND TRIP TICKETS TO

Chicago	$ 72 50
St. Louis	67 50
Memphis	67 50
New Orleans	67 50
Kansas City	60 00
Omaha	60 00
St. Paul	70 00
Minneapolis	70 00
Duluth	72 50
Fort Worth	60 00
New York	108 50
Boston	109 50
Philadelphia	107 50
Baltimore	107 00
Washington D. C.	107.00

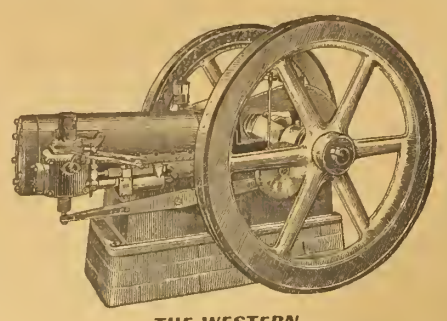
ON SALE
August 15-16-24-25.
September 7 8-9-10-11-16-17.
Good for 90 days.

DENVER AND RETURN, $55.00
ON SALE
August 10-11-12-30-31.
Good for 40 days.

These tickets are all honored on
The California Limited

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST
MOST SUCCESSFUL
ANY SIZE PLANT FROM 5 TO 500 H. P.
CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE
WOOOWARO PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOO WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

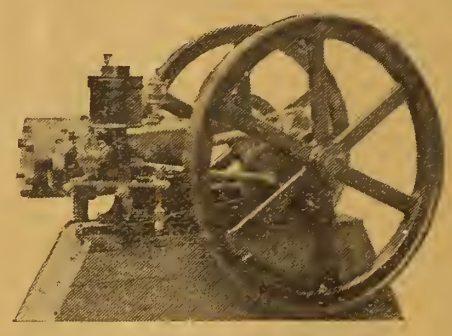
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

PROGRESS GAS ENGINES



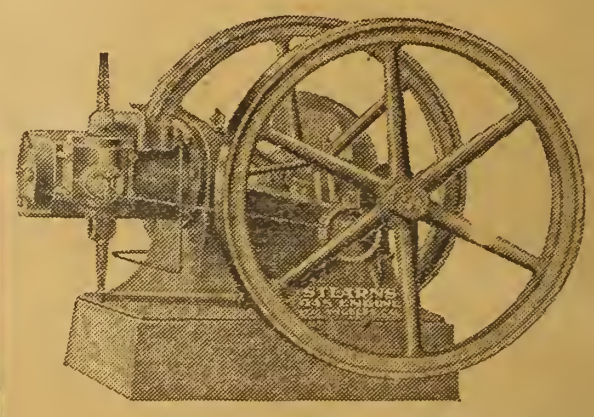
Are constructed upon scientific principles after the most approved designs for steady work. It is an up-to-date engine and fully guaranteed. The cost of operating our 4½ horse power engine working at full speed is about 35 cents a day of ten hours.

Our special features are: High Compression, Positive Inlet Valve, Cylinder Bores Reamed, Sparker is of Hammer Break Type, Economy of Electric Battery. Write for descriptive Pamphlet and Price List.

Complete Pumping Plants Furnished

Progress Gas Engine Company
Telephone Main 5165 951 N. Main St., Los Angeles, Cal.

Simplicity HOME MANUFACTURE Economy



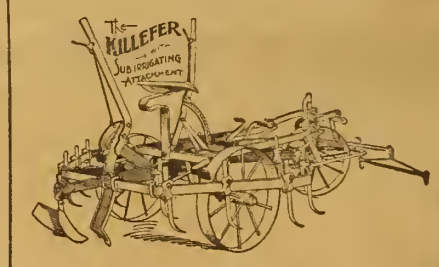
A first-class home-manufactured Gas Engine which is proving a winner. The mechanism on intake valves allows spring to lengthen and valve to work easier and take a larger charge when needed.

A new idea—another step in advance—is the sparker which operates only when necessary to explode the gas and gives same length of time in contact whether early or late spark.

WRITE FOR CATALOGUE AND INFORMATION

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.
2036 Palmetto St. Los Angeles, Cal.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

20 Ag'05

LIBRARY
OF THE
UNIVERSITY of ILLINOIS

California
CULTIVATOR

LOS ANGELES SAN FRANCISCO

AUGUST 25, 1905

THE THOMPSON SEEDLESS GRAPE.

By courtesy of Geo. C. Roeding we print above a cut showing the bearing qualities and habit of growth of the Thompson Seedless. This grape is identical with the Seedless Sultanas of Asia Minor, and has proven very popular in California. It is a very early shipper, its raisins are of superior quality, and as a sherry grape is well liked.

CIRCULATION EXCEEDING 10,500

THE MAKING of a SUCCESSFUL POULTRY FEED

Part view of the manufacturing department where Coulson's Egg Food and Coulson's Chick Food are made. Notice solid stone floor. See the men at work bringing the different feeds and ingredients to the mixing machine. Thousands of sacks are handled daily. There is one pile containing over a thousand sacks of Armour's Meat Meal. Another pile of sacks of fine ground Bone Meal. Another pile of three thousand sacks of shorts. Another of fifteen hundred sacks of flour middlings. In another place you will notice a carload of Armour's Dried Blood. In another, eight hundred sacks of fine ground beef scraps. In another pile a carload of ground oats, and in another a stack of two cars of granulated corn meal, and back in the corner sixty thousand pounds of Minnesota Millet Seed, car lots of Cracked Rice, steel cut Oat Meal, different seeds, etc. There are tons of charred bone Charcoal, and barrels of powdered Willow Charcoal, and big stacks of many other ingredients.

OUR SPECIALTY—MAKING GOOD FEED.

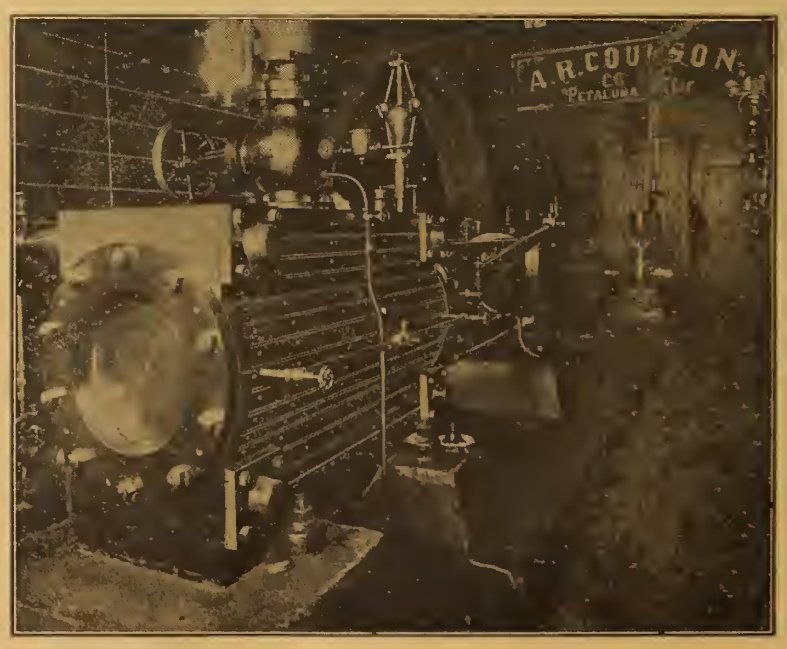
John D. Rockefeller's specialty is oil, Andrew Carnegie's, steel; Senator Clark's mining. These men were and are specialists. They organized themselves to excel, just as we have organized ourselves to excel in the manufacture of the BEST FEED for POULTRY. It is the one thing we think of, dream of, and talk of. When a man's heart is set on his task, he does it better than the "don't care fellow."

We do not and will not employ any one who is not interested in their work, consequently we repeat to you that we make GOOD FEED FOR POULTRY, (none better but lots that are worse, we assure you.) Making GOOD FEED for poultry is our specialty, and we have got it down to perfection. We manufacture a feed that will make your hens lay, as you never dreamed of before. Not only is the feed good to make hens lay, but it helps the fowls and it also gives them richer blood and keeps them in healthier conditions.

Being specialists in the line of mixed poultry feed, we can give you the best feed at the lowest prices.

All fowls over two months old, pullets and laying hens should have one meal a day of Coulson's Egg Food as a warm mash. Feed it for one year and see what there is in it.

It takes several weeks to show any great gain in egg production on any change of feed. Many poultrymen have tried Coulson's Egg Food for a few days and given it up as a failure, while there are hundreds and even thousands of poultry keepers who have fed Coulson's Egg Food for over a year's time and have made the greatest of success, and who feed Coulson's Egg Food every day to their hens, and every day they get plenty of eggs.



TWO HUNDRED HORSE-POWER ENGINE.

That runs the machinery which grinds up the bones for making fine ground bone meal, and pulverizes the charred bones for making Bone Charcoal, Etc.

These ingredients are used in making Coulson's Egg Food (a mixed food for pullets and laying hens) and Coulson's Chick Food, which are mixed by machinery and mixed properly.

The healthiest looking fowls, with bright red combs, are those that are fed on Coulson's Egg Food.

TRY IT FOR ONE YEAR.

Experience, backed by the general law of average, proves that feeding any change of food for the first week or two doesn't bring results. A trial of a SACK OR TWO is a waste of money. If you GO IN, stay in, and it WILL PAY YOU. "Keeping everlastingly at it" is the ONLY WAY TO SUCCESS.

MR. POULTRYMAN, there is only one way to buy, and that is on record of WHAT YOU WANT. If you want to make a good record, buy good feed. Character is a man's record. So it is with feed. Buy on character. When you buy Coulson's poultry foods you buy on character, and get a standard article of feed that contains only the best and wholesome ingredients.

Rumsey, Cal., Dec. 15, 1904.

This is the first season I have used Coulson's Egg Food and I find it excellent for the purpose. Since feeding it I have had more than double the number of eggs that I ever have had before from the same number of hens.

Yours truly,
A. A. HENRY, Rumsey, Cal.

The Conlson Poultry and Stock Food Company

730-732-734-736 MAIN STREET (INCORPORATED. CAPITAL STOCK $100,000) PETALUMA, CAL

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

ol. XXV—No. 8 LOS ANGELES, CAL., FRIDAY, AUGUST 25, 1905 Subscription $1 a Year

Experiment in Incubating Resistant Grafts

An Original Method Pursued by Dr. W. N. Sherman, Fresno, Cal.

One of the important questions be-re the vineyardists of Northern and entral California, is to successfully eet the encroachment of the Phyllox-a. The experiments carried out in rance and Spain have proven valu-ble. At the present time no one ems to have solved the problem ful-. We know that several of the resist-it stocks have been tried and proven tisfactory in various soils, and with niferra grafts. A recent letter from of. Bioletti, told how successful me of the vineyardists of France had en with Rupestris and the several brids of Rupestris and Riparia. One portant matter relates to the suitable sistant stock for the several varie-es of table grapes, so successfully own in California, and also of the rai-n grape. In Fresno county, for sev-al years past, the larger vinyardists ve been experimenting with resist-it stocks, most of them in a small ay, but some of them boldly planting it large vineyards.

The important experiments made in rance with the wine grape on resist-it stocks and their brilliant success. observed and recorded by Prof. Bio-tti, would seem to settle the matter. his, however, is not the case with the her varieties, and the ones that inter-t some of us most. There seems to no settled opinion, or proven ex-rience, as to what resistant stock is st suited to the several varieties of ble and raisin grapes. The success tained with the several favorite ocks for the wine grape, has in-enced others in using them for the ble grape, where the soil and cli-atic conditions seemed favorable, but yet no definite results have been an-unced.

Many of the farmers of this part of e State are indifferent about this estion and continue to plant vine-ards as heretofore. Many do not exer-se ordinary care in disinfecting their ttings from vines that are likely to infected. Their argument is that e phylloxera works so slowly in our t sandy soils that it may be years fore their vines are appreciably in-red, and that they can secure profit om their plantings for a sufficient riod before any damage may be done. here is some reason in this argument, r we know of vineyards that have en infected for ten years, and are ill profitable, yet far from their orig-al vigor and productiveness. About ur years ago the writer began plant-ing vineyards on resistant stock, in an-ticipation that a time might come when the old vineyards would suffer and on the theory that it is not wise policy to plant new vineyards in in-fected districts unless they are on resistant roots. The old method of bench grafting rooted cuttings, and grafting in the field were both used with fair success. The injury resulting from carelessness in cultivating and plowing, and the continued working over of the vines that missed, proved expensive and slow, and we abandon-ed these methods for the newer ones, namely, grafting the resistant cuttings and healing or callousing them in, in dry sand beds or an incubator. We now have Emperors and Thompson Seed-less, grafted on Rupestris St. George, that are three years old and in bear-ing this year. They are not unlike

Photograph of Vines Taken July 10th.

in vigor and size, the same varieties on their own roots, in the same soil. We have great hopes for their success, for we see no good reason why these varieties should not take as kindly to the resistant Rupestris as the several varieties of the wine grape have done.

We admit that the time has not yet come, when we can speak positively about this matter, but so far as our experience and observation goes, we believe we are warranted in our hopes. The Rupestris St. George has been used quite extensively in this neighbor-hood, and the hybrids 3306 and 3309 to some extent.

The method of grafting the resistant cuttings, callousing them in sand beds or an incubator, and planting in nur-sery rows, is preferable to the older methods of bench or field grafting the resistant rooted stock. Last winter while grafting cuttings in the usual way, for callousing in sand beds, I had the foreman put some of these grafts in the olive oil cellar, where I had a large box stove constantly heat-ed, and try the incubating method. At the time I was unable to find the re-print of Prof. Twight, giving full de-tails of the French methods, so I sub-stituted my own plans, as follows: The grafted cuttings were carefully ar-ranged in moist moss and placed in layers, each layer covered with moss an inch thick. Fruit picking boxes holding fifty pounds, were used for the purpose, and the root end of the cut-tings were laid to the outside so that the grafted ends were in the middle of the box. These boxes when full held about one hundred and fifty cuttings. No charcoal was used and the boxes were placed one on top of the other, three high in this cellar, where we were making olive oil. At night the fire was renewed so as to maintain the tempera-ture. The temperature ranged from seventy to eighty-four degrees. After ten days, the top layer of moss began to dry and was moistened by a light sprinkling of water. The under layers were not disturbed, and the moistening was made but once while they remain-ed in the cellar. Callousing began within two weeks and continued rapid-ly. Cuttings were removed directly from the cellar to the nursery and planted, without subjecting to sub-dued light.

The grafting was done from the 12th to the 30th of February, and the cut-tings were planted in the nursery dur-ing the first week in April. At this time the cuttings were all well calloused and many of them were both sprouted and rooted, that is, the scion was sprouted, two or three inches long, and some of the cuttings had started to root. Most of them grew rapidly, and at this writing we estimate ninety per cent of strong, healthy, vigorous vines with canes from two to two and one-half feet long. Very few of the scions rooted, as in the case with other methods and the results we obtained were a great surprise. The cuttings used were made about ten days after the first heavy frost, likewise the scions, which were originally meant for planting as cuttings, and not intended for scions. All buds were removed from the resistant cuttings before they were grafted.

About two thousand cuttings were grafted and treated this way. No spe-cial care was used to graft these better than the others, and the same stocks were used as with the ones we made and calloused in the sand beds. Unfor-tunately the grafts treated in the sand beds were badly damaged by the March frost, and we estimate sixty per cent of these are growing and a large proportion of them, the scions have rooted. Of the vines treated by the incubation method, we have made pho-tographs so as to show the rows length-ways. The cuttings were set about six inches apart in the nursery rows, and at the time the picture was made the vines were so vigorous in canes and foliage, that the picture does not give an adequate idea of them.

All the cuttings treated by this meth-od were grafted to Malagas, and while we would not draw a conclusion from one experiment, the results were so re-markable that we shall follow up the method and hope to report as good or better results. We hoped to make an earlier report of this experiment, but all the knowing ones advised us to wait till the vines attained a greater age when my results would be differ-ent. As all these cuttings are now large, vigorous, healthy vines, show-ing the Malaga foliage and appearance, and as several people have viewed them critically, the writer has no fear of these recorded results being doubt-ed.—Dr. W. N. Sherman, Fresno.

Missouri is the first poultry State in the Union. More than 155,000,000 eggs were produced in the State in the last year. The surplus products of the poultry interest now exceed by $2,-000,000 the value of mules shipped out of the State. The estimate does not in-clude the enormous consumption of eggs at home, but only those actually sold.

California Horticulturally

By John Isaac, Sacramento, Cal.

THE MEXICAN ORANGE MAGGOT.

There are two causes for satisfaction to our orange growers resulting from the late investigation into the orange maggot in Mexico, carried on under instructions from the Commission of Horticulture. The first is, that so far this pest is confined to the tropical portions of our sister republic, the center of infestation being in the State of Morelos, from which place it takes its common name, and spreading from there to Vera Cruz, Guerrero, Oaxaca and other States located in the tropical portions of the country. While maggoty oranges have been found in the northern States of Mexico, these have not been grown there, but have been imported from the tropics in the early part of the season, and before the fruit on the high tablelands ripened. So far, the orange maggot has not been found in any oranges grown in Sonora, Chihuahua or other States bordering on our own country. This makes the danger of introducing the pest more remote, and while not altogether a surety against its arrival in our State, at least reduces the chances to a minimum.

The second satisfactory feature is that the Mexican government, spurred to action by the embargo placed upon their fruit by the State Board of Horticulture, has taken in hand the extirpation of the pest, and is leaving nothing undone to prevent its spread beyond its present limits, and, so far as possible, to reduce it below the danger limit in those sections. To this end, means have been taken that even we in California should hesitate to try, the destruction of the whole fruit crop in the infested section, for instance, the steady employment of gangs of men for the purpose of gathering up the pupae and the capturing of the insect in every stage of its existence. These efforts, added to our own strict quarantine against fruit from the infested section, give assurance of safety to our orange growers from this pest.

It is claimed by the Mexican entomologists that the Trypeta ludens is purely a tropical insect and that it will not live in any section where a low temperature, as low as 37 degrees, is common. If this is true, it is another assurance of safety for us, at the same time it is not always safe to rely upon the inability of tropical insects to withstand the lower temperature of our own State, and, being out, it is much safer to keep out a pest than to admit it for experiment's sake and to prove a theory.

That the pest is not found in Northern Mexico is borne out by the present investigation and by others carried on by Dr. L. O. Howard and Prof. Albert Koebele, both of whom lend the authority of their assertion that the pest is as yet confined to the tropical portions of Mexico and especially to the State of Morelos. In this State, at Yautepec, is found the principal orange growing section of the republic, and here certainly its destructive work is sufficient to warrant California in taking every precaution to keep it from obtaining an entry over our borders. Here the fly attacks the orange at the ripening period, in October and November, laying a mass of eggs beneath the rind of the ripening fruit, and scarcely an orange or sweet lime is left unattacked. During the season when there are no ripening oranges, the pest turns its attention to the mango and guava and these fruits are as badly infested as the orange later on. So serious a pest is this fly that in the State of Morelos, where it is at its worst, it has rendered the growing of fruits which it attacks at least unprofitable. In a report to the government Prof. Herrera, the government entomologist, states that:

"In Cuernavaca hardly $1000 worth of mangoes can be gathered free from the pest, although the total production is at least five times that amount. The orange can not be grown here on account of the worms.

Mr. Guillermo Gandara informs us that in a great many of the orchards at Cuernavaca the plague has spread to such an extent that the owners have been compelled to discard the cultivation of mango trees, or if they desire this fruit they gather it when green and place it between plantain leaves to ripen. In this district in a few days Mr. de la Barreda collected and destroyed by burning between seven and eight thousand mangoes, all of which were infested. Professor Rangel removed over 3000 larvae from mangoes in Yautepec, and destroyed over 57,000 in which the worm was known to exist. According to a statement made at an assembly of agriculturists at Yautepec in February, 1900, the loss of fruit from this source alone in this district is from 33 to 40 per cent, or over $20,000.

Even these large losses will fall below the reality, for they do not include the fruit which drops from the tree during the year all through the State of Morelos."

It will be seen from this statement how serious a pest the orange maggot is where it has obtained a foothold, and while the past investigation may indicate that the danger of its introduction into California is perhaps not so serious as has been thought, it is still sufficient to warrant us in taking every precaution and to prevent us from taking any unnecessary chances.

* * *

GRAIN IN THE NORTHERN COUNTIES.

As harvest progresses in the counties of the San Joaquin and Sacramento valleys, it becomes more and more apparent that the grain crop will fall very much below early expectations, and these were not extravagant. The total output of wheat in California this season will be insufficient to supply the usual demands of our own State. In olden times large fleets of grain ships could be seen in San Francisco bay awaiting charters for cargoes of wheat to Europe and our annual export of grain was enormous. But, year by year, our exports have grown smaller, until at present the grain fleet in our waters is noticeable for its smallness. All sorts of reasons are adduced for this state of affairs, and also for the fact that our grain is not of as good quality as it used to be, but the truth can be probably found in the fact that for forty to fifty years past we have cropped the same land to grain, and have never returned to the soil any of the fertilizing elements which we have removed from it. In other words, our grain soil is exhausted. It is a question whether there was ever better wheat land than that of California in the early days. We can remember when wheat farmers would sow a crop one year, let it volnteer the second and sometimes even the third and so gather two or three crops from one sowing. Of course the second and third crops were not first class, but they paid well for harvesting. But those days are passed and California's prestige as a wheat State is gone, all that we may hope for now is that by deep plowing and fertilizing we may yet produce fair crops on some of our wheat lands.

* * *

A POOR FRUIT SEASON.

Fresh fruits in the northern counties have not turned out well as a rule this season. Apricots yielded a good crop, about the only fruit that did, but these were very much disfigured with the shot-hole fungus, which was worse than usual this year. Pears and peaches are very light crops. The theory is advanced, and seems the most plausible one, that the heavy rains which came at the time the pears and peaches were in bloom washed out the pollen and so prevented fertilization. This may also be the cause of the severe attack of shot-hole and other fungi, which are always worse in wet or damp weather.

* * *

THE COMING STATE FAIR.

The State fairs for some years past have been so severely criticized, and to a great extent justly so, that they have fallen into disrepute among the farmers, in whose interest they are supposed to be run. Gradually, year by year, the gambling fraternity have become stronger at these shows, until at last they were little more than horse races, run at the State expense for the benefit of gamblers, and the farmers were conspicuous by their absence. A determined effort is being made by the new management this year to reform this and the fair is to be a truly representative exhibit of the State's material industries in which horticulture and agriculture are to be given a conspicuous place. A number of counties have already expressed their determination to take part, and we look for the best and most representative agricultural exhibit seen in Sacramento in many years, and in which horse racing and the gambling fraternity will have to take a back seat.

In nearly all cases the best tools are the cheapest, and it pays better to buy good new ones than to worry along with poor, worn out ones.

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long, $ 9.00 per 1000
14 inch long, 10.00 per 1000
16 inch long, 11.50 per 1000
18 inch long 12.50 per 1000
24 inch long 15.00 per 1000
30 inch long 17.50 per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.
When writing advertisers mention Cultivator.

CALIFORNIA
State Fair
SACRAMENTO

SEPT. 2nd to SEPT. 9th

Native Sons Admission Day Celebration
ELECTRIC CARNIVAL
RACING RACING
HORSE SHOW CATTLE SHOW
POULTRY SHOW
7 PARADES 20 BANDS
FREE AGRICULTURAL PAVILION
Excursion rates. Exhibits carried free.
For Information and Premium List, address
BENJ. F. RUSH, Pres. ALBERT LINDLEY, Sec'y

Best Prune Dip GREENBANK Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO
When writing advertisers mention Cultivator.

We Can Save You More Money
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping
J. L. BERRY SUPPLY CO., Los Angeles, Cal.
Office; 304-305 Douglas Building Shops and Yards: 860 North Main St.
Phones; Home 2367; Sunset Red 2811 Phones; Home 1088; Sunset Main 1088

IF PUMP YOU MUST
Why not pump at a profit?
Write A.T.Ames, Galt, Cal. for illustrated Catalogue

Conducted by PROF. A. J. COOK, Claremont

BEEKEEPING FOR BEGINNERS.

The old adage that there is always room at the top applies to all departments of life and work. At this season of the year it is full of suggestion to the beekeeper in reference to

Marketing.—My father was a very thrifty farmer. As evidence of this he commenced with nothing and though he brought nothing to his aid except the business in hand, yet he acquired a large farm property. It was one of his rules to always market his farm products as soon as they were ready. He said that very likely he might often secure more by holding his wheat, wool, etc., yet he had noticed that, taking the years all in all, he was surely the winner who sent his products to market as soon as they were ready. There are various other considerations that add strength to this advice. Nearly all products, especially those of the farm, lose in value with age. Thus we may expect to meet the market in the best condition with wares sent out as soon as ready. We may also save much in the way of risk from fire and other losses. I believe that this advice from my father, like almost all of his suggestions, is well worth attention by us all.

In case of honey, the argument has certainly much force. People are ready for honey early in the year and expect it. Just at this season the appetite is whetted, the eye is alert and there will be sore disappointment if the best that the beekeeper can give is not on the counter of the groceryman at the very dawn of the season. In this product, as in others, the article in question is never so fine in appearance as it is just when it comes from the hive. The past year there have been several cases of fire and more than one of flood. Often. honey kept over one season was swept to ruin, whereas if the above suggestion had been heeded it would have brought good money in the market.

In case of comb honey, there is another very important reason why it should be sold as soon as ready for the market. Comb becomes brittle with cold, and thus there is always danger in shipping it after the warm weather is over. It is a very serious matter for the combs to break down, for there is very likely not only loss of the individual comb that has fallen, but often serious damage to the whole case. He who undertakes to ship comb honey, after the cold of winter has come upon us, is running a risk that no wise person would care to take. While I recognize the fact that occasionally it will pay to hold our goods for better price, he will be most fortunate who adopts the plan of always shipping his wares as soon as they are ready for the consumer.

* * *

Shipping Comb Honey.—Apropos to the above, a word is in order regarding the method of shipping comb honey. One of the reasons that comb honey is so attractive in the market comes from its beauty. We all know that to be beautiful it must be entirely free from damage. It will pay then to spare no pains in shipping our comb honey to protect against breaking or marring. It is best to ship in rather small cases; those holding either twelve pounds or surely not more than twenty-four. These should again be put in the shipping box, each box holding say twelve of the former and six of the latter size cases. Thus in either case each box will carry 144 lbs. It is well to put a little excelsior on the bottom of the box, to break the jar. Again, if the shipping box has not finger holes in the end, it is wise in nailing on the cover to let the center board, which should be an inch thick and four or five inches wide project over two or three inches for convenience in handling. On this board should be printed in large letters, "Beautiful Comb Honey. Handle With Care." There is one more thing which seems simple, but which is certainly worthy of attenttion. In putting our comb honey into the car, the frames should be run lengthwise as there is much less danger of breaking combs from the jar of coupling the cars.

* * *

RAISING STRAWBERRIES.

I have some friends at Owosso, Michigan, who have gained a very desirable reputation as producers of small fruits, especially strawberries. As we all know, this business is pretty strenuous and a portion of the year calls for hardest effort. The present season, owing to the great amount of rainfall, has been one of peculiar difficulty. I reached my friends just at the close of the season, and yet I found them very happy in their work, with no word at all of complaint. In questioning as to the cause of their good feeling, I found that a good thick pocketbook was the explanation. To show something of their success, although Owosso is a small town, less than twice the size of Pomona, yet one of my three friends marketed in the town one hundred and fifty bushels of strawberries in one day, and this notwithstanding the fact that he depends entirely on the local market. Here again, I wished for explanation. "We aim to produce a berry which people feel that they must have," was his reply, and does not this tell the story of success in almost every line of work. I asked, "How do you do it?" The answer was, "We set only very carefully selected plants, and that of only one of two of the best varieties," He said, "You remember when we were young, the Wilson was the rage. Today no one could succeed with the Wilson, even at its best." Again," said my friend, "we take great pains with our cultivation." I said, "Was that so necessary during this rainy year?" "Yes," he said, "very necessary, for this reason. We must have a gravelly or sandy loam. For the best success will come only from frequent cultivation." "But," said I, "do you not cultivate chiefly to conserve the moisture, and this year you say you have had a surplus of moisture the season through?" He replied, "We wish all the richness of our soil to go into our plants and berries, and so, either by mulch or cultivation, must keep the weeds down. But more than this, we must aerate the soil. I doubt if any of us fully appreciate the value that comes from our bacterial friends. They never do their best in a soggy soil."

These gentlemen are also very alive to the necessity of frequent and ample fertilization. They renew their field every two or at most three years. The first year they get only a partial crop. The second year they expect a great crop, and in case the vines maintain their vigor they leave them for a third year, when they often get a very respectable yield. In either case, they plow up as soon as the picking is over and sow to wheat, seeding also at the same time to clover. Thus we see that they practice the use of green fertilizer, for the clover, when it is at its best is plowed under and the ground again set to strawberries. In this last case, as they put in the clover they also put in a liberal supply of potash and treated bone meal. It may be that in California the potash might be omitted and we might have to put in some other legume in the place of the red clover. Cow peas, the vetch or peas would do well.

* * *

SECRETARY WILSON.

I am sure I am not alone in my deep regret at the onslaught that is being made in many quarters upon the Secretary of Agriculture. I do not believe that the farmer could have a better friend than he has in Secretary Wilson. It is easy to account for his wearied look, which he has carried in these days of cruel aspersions, for he ha the interests of our farmers deeply at heart and these rumors and suspicious insinuations which are now being indulged in by many editors must certainly be a deep grief to him. In my next I will speak more fully on this subject.

CALIFORNIA TABLE GRAPES.

The following article by Frank T. Swett in For California, gives a view of the California table grape industry and its importance which will give surprise to those not conversant with that phase of California fruit growing:

From time to time for over a hundred years attempts have been made to grow European varieties of grapes east of the Rockies, but without commercial success. There are too many climatic incompatibilities. Cold winters freeze, hot, humid summers breed fungoid diseases of the vine, and copious summer rains split and rot the tender berries.

But in California the fine varieties from Spain, France and Asia Minor find themselves even better off than in their original homes on the shores of the warm Mediterranean. There are dozens of climates west of the Sierras, but the vine adapts itself to all of them. The Sultanina, the beautiful white seedless variety often prosaically called "Thompson Seedless" shows itself a close observer of the thermometer by ripening in June on the banks of the Colorado river. It ripens a hundred days later, in the cool climate of the shores of San Francisco bay, at Martinez, and between whiles in a hundred other localities.

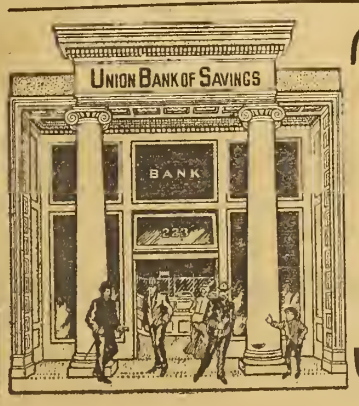
There are perhaps ten thousand acres of California soil devoted to table grape growing. Most of the product is shipped to other States, New York and Chicago being the most notable markets, but so thorough is the distribution that no village in the United States goes without. About two million crates, each holding four square baskets of six pounds each are shipped annually. This foots up a little over a half pound of California grapes for each American stomach.

The Flame Tokay, originally from Spain, is the leading variety. Its large clusters of flame red berries whose thick skins and firm pulp enable it to stand long distance shipments, make it a favorite everywhere. Probably two-thirds of the annual shipments are of this fine variety. Later in the season, when the fall rains have put an end to the Tokay shipments, comes the Red Emperor, with a more rain-resistant skin, and large oval berries of a darker shade of red. While hardly as attractive to the palate, its beauty and remarkable keeping qualities assure its sale at fancy prices. Wealthy New Yorkers, who want a fine table decoration frequently pay a dollar a bunch for the finest clusters. A bright California woman, Mrs. Minna Sherman of Fresno, has put so much originality, skill and conscience into growing and marketing this variety that her brand of Emperors has become famous and remarkably profitable.

From July to December the trains of refrigerator cars are going eastward over the Sierras, grape laden. During that time thousands of men and women find employment in picking and packing. The picking is usually done by men, and though it requires care in the selection of ripe, well-colored clusters and their handling without injury to the bloom, it is the least of the work. Hauled in picking trays to the farmer's packing sheds, the clusters are minutely searched by women and girls armed with scissors, and each bruised, under-sized, unripe, or otherwise defective berry is trimmed out. The bunches are then skillfully laid in the crates, covers nailed on, hauled to the cars, and started on their ten days' journey to eastern markets.

The leading table grape district is about half way between San Francisco and the Sierras, extending through the rich valley soils of Sacramento and San Joaquin counties.

The shipments from California are increasing annually, and new acreages are being planted. With a very moderate increase in the per capita consumption of grapes there would seem to be room for a considerable expansion of the business. A half-pound per capita seems a ridiculously small allowance for any hungry, fruit-loving American citizen.



Union Bank of Savings

RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits 4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.

COST OF BERRY CROP.

Editor Cultivator: It would be quite interesting to learn what expenses were involved in caring for that acre of strawberries Mr. L., of Barbour ranch, writes about in the last Cultivator, and what kind of berries—Brandywine or others.—G. E. Degerholm, Tropico.

* * *

Replying to Tropico letter the expense items are as follows: Beginning with the land after it had been plowed and harrowed and smoothed, ready for marking:

Potting and transplanting	$113.75
Cultivating	56.55
Irrigating	63.85
Picking	350.00
Baskets	150.00
Fertilizer	13.00
Total	$747.15

There are other items that perhaps should be legitimately charged up—as delivery expenses—per cent of crates lost—prorata of management expenses—taxes and wear and tear of tools. At best I should have to approximate them—as also the commission on sales. These latter named items will vary with every grower's situation and as no attempt was made here to segregate the expense items, except as above noted, I shall not offer any estimate.

In my judgment the item for fertilizers should have been not less than $100. Thirteen dollars worth of stable manure was plowed under in April preceding and the land planted to watermelons, which the bugs destroyed utterly, and it was after this that it was determined to set out this same piece to strawberries. I proposed to set potted strawberry plants from pots, in August, believing I could secure a full crop the following spring. I had repeatedly done this same thing on rich market garden land in the East and believed it would work even better here. But the owner of the ranch stood aghast at the idea of buying 26,000 pots at a cost of $5.20 per 1000, merely to try an experiment. As a compromise 6000 were bought and the plants set in rows 20 inches apart and 3 feet apart in the row. This, however, set but little more than half the acre, but as soon as the plants were set out the same pots were used in propagating another lot, which were not ready until the middle of September. In the meantime the first lot had sent out runners which were placed along in the rows and allowed to root—making what is known as the matted row. The second lot, because of late transplanting, threw out no runners. About seven rows of the latter planting were set one foot apart in the row—the balance three feet—same as August planting. As no runners came to fill up the open spaces, these spaces were filled in February from plants grown in the usual way. Our finest berries were from the seven rows set one foot apart in the row. All our rows are twenty inches apart. The variety was the Brandywine—from the very best strain known, and propagated by the greatest care and skill possible. People who are skeptical as to the value of strawberry plants grown properly are cordially invited to visit our grounds. To many the propagating of plants in pots is new, but it is an old process, and the only successful way to set out a large number in hot August or September weather. I have never succeeded with runner plants in those months. Later on, when the plant is not in active growth and the temperature is lower it is easy enough,—Q. A. L., Barbour Ranch, San Gabriel.

RAISIN INDUSTRY.

This industry is an important one in the production of California. The acreage of this product is conservatively fixed at 70,000 acres of producing vineyard, yet, during the past five years, many thousands of acres of raisin grapes have been planted, and it is quite safe that California today has between seventy-five and eighty thousand acres of raisin producing vines.

The importance of the industry is that, as a separate product, more growers are interested, there being about 3500 California growers who produce raisins, and the result causes an active circulation of money that is beneficially appreciated by the grower and merchant.

Raisins produce from $50 to $150 per acre, owing to soil. Aside from one or two localities in the West, California is the only raisin producer of the United States. The system and method of marketing the product compares with the imported raisin in packages and quality, and at least 50 per cent of the California product is being placed on the American market in one pound cartons of seeded raisins—seeded, cleansed and pure of any processing—ready for use in the preparation of puddings, pies, cakes, and for any other use that currants and raisins are required. These goods are sold in the East at 10 to 12½c per pound, and are a household necessity, as there is no labor needed in seeding raisins as in the olden days.

Being a home product the American people should realize that in California, one of their own States, raisins are being produced by a community of farmers who expect and hope that consumers will buy their own home product; superior in quality and modernized by machinery, placing the raisin package in the kichen of American homes ready for use without even washing.

This product of California is commended to the housewife, therefore use it and encourage home production, particularly when you are securing a superior article for the purpose you intend it. If the consumers of our own country can realize that California is producing from 80,000,000 to 120,000,000 pounds of raisins annually for the American market, why not encourage our own advancement and use California raisins.

California raisin production:

1902	100,000,000 pounds.
1903	120,000,000 pounds.
1904	80,000,000 pounds.
1905 (estimated)	90,000,000 pounds.

These results produce 4000 to 6000 ten ton carloads annually.

Drying grapes for raisins forms one of the most prominent features of viticulture as carried on in California. For the last four years average output has been 94,750,000 pounds. Yet, strange, to say, this branch of the industry is carried on in California alone. How very extensively it is carried on here the above figures do not show of themselves. But to produce an average crop of raisins, 330,750,000 pounds of grapes are required. Perhaps California is the only State which can afford to divert such a large part of its grape yield to drying for raisins. It certainly pays, however, for the average value of raisins during the last four years has been $4,374,125.

When the tops of onions become yellow and commence to fall, they are ready to be harvested; they are best dried by placing them in a dry shed in thin layers.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.
When writing advertisers mention Cultivator.

CAULIFLOWER SEEDS
$1.50 PER OUNCE
DIRECT FROM GROWER IN DENMARK
AMERICAN ADDRESS KARL KOLLE, 1234 N. 50Av. CHICAGO

Lime Your Lands
LIME, $2 50 PER TON
Time to buy. For particulars write
Home Phone 1066 H. B. MATTHEWS, RIVERSIDE, CAL.
NOTE—Business solicited ONLY between Los Angeles and Redlands and Riverside.
When writing advertisers mention Cultivator.

Wanted--Nursery Canvassers
A few good nursery canvassers for choice territory. Outfit furnished free; commission advanced weekly; expenses paid. Good opening for proper parties. Write at once for an agency. Give references when applying. Address
OREGON NURSERY CO., Salem, Ore.
When writing advertisers mention Cultivator.

STUDEBAKER FRUIT WAGON

STUDEBAKER WAGONS
ARE STANDARD THE WORLD OVER

When quality is the consideration there is only ***one selection.*** Studebaker wagons stand upon a reputation established by quality. They are not only the best, but they are sold at a price which is within the reach of every purchaser. Studebaker wagons are made by ***experienced artisans.*** They are built upon the most improved lines with the latest and best machinery. Everything is ***first-class*** from tongue to tail board. You will make no mistake by purchasing a ***Studebaker,*** but you will likely make a mistake if you buy any other kind of a buggy or wagon. We have a ***complete line*** and would be glad to send you our catalogue to show you what we carry in stock. A ***Studebaker*** will always give you ***entire satisfaction*** and meet every demand made upon it. We are the local agents.

Newell Mathews Co. 200-202 North Los Angeles Street Los Angeles, California

When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

SCALE AND INSECT PESTS.

Four of the scale which infest the citrus trees of California, the soft brown, soft orange, hemispherical and cottony cushion scale, are kept under control by numerous parasites and at present are not factors in the insect problem. The parasitic insects which attack these species of scale do not in any instance exterminate the scale, but reduce the numbers to the point where it is often hard to find specimens of these scale, but the inspector doing field work will occasionally find all of these varieties of scale in very small numbers or located on a single tree. Perhaps the most effective parasites on any specie of scale is those species of lady birds which attack and effectually control the cottony cushion scale. Four species of the lady bird ordinarily classed by the orchardist as Vedalia, do so effectual work on this specie of scale that specimens of the cottony cushion scale are only occasionally found in our citrus orchards and nurseries. Frequently, however, infections, in a small way are found on nursery stock or from one to half a dozen trees in the orchard show infection. At first the orchardist on discovering such an infection of one or more trees, became alarmed and applied to the State or county commissions for the parasites, but experience has shown that if left alone the scale is soon attacked by the Vedalia and the local colony of scale are completely destroyed so that none are left to be found, but notwithstanding this apparent extermination of the local infection of the cottony cushion scale, the insect is not exterminated and if the parasitic enemies of this scale were removed from our State or through any means should become exterminated, cottony cushion scale would rapidly develop and again threaten the destruction of our citrus orchards.

* * *

BLACK SCALE.

Many of our citrus fruit growers have come to believe that this, the most widespread of our scale insects, is about to be, if not already, removed from the list of injurious insects which require treatment by spraying or fumigation. I personally know of instances where the orchardist has decided not to treat his citrus trees for black scale because of the rapid increase of the scutellista during the last few weeks. And from a reliable source I learn that orders for material to be used for treatment of this scale have been reduced in quantity or cancelled. Will it be necssary this year to spray or fumigate for black scale, is the question that is up to every owner of a citrus orchard. This summer the bulk of the black scale hatched early and in advance time of the ordinary season. The scutellista did not get to work until mid-summer and in many cases, we might say in most of cases, the orchard is well stocked with young black scale and the question asked is shall we spray or fumigate for this scale? My answer to this question, judging from observation and past experience, would be to advise thorough treatment that will destroy all the young scale. The scutellista are now in such numbers that all the old scale which have not hatched out their brood of young have been parasitized and the destruction of all the young scale now out will effectually clean the orchard from black scale and with such treatment the orchard will remain practically clean for the next two years, even though the scutellista should do no better work than in the last two years.

In order to maintain my reputation for consistency I shall have to say that I did not answer the communication of C. F. E. R., of Orange, in the citrus department of the Cultivator of August 4th. I did not, of course, see the specimens of scale sent and the answer may have been in this instance in the main correct. But from my past experience and observation in a great majority of instances the summer and fall hatch of black scale usually, in ordinary seasons, goes over to the next spring and summer before they come into the egg stage. This season there will be no fall hatch of the scale as the parasite will get all of the old scale that would hatch late. On the old bearing orange trees the young scale will mature slowly and the bulk of them will go over until spring before the next brood hatch. And providing they should come into the egg stage in the months of April and May the scutellista, judging from the past experience with this parasite of the black scale, will not be in sufficient numbers to destroy the old scale and prevent the hatching of another brood of young scale next spring and early summer. Another thing, if the rainy season should come early this year, for instance the last of November or first of December, accompanied with cool weather, this will retard the development of the young black scale and check the work of the scutellista.

There is still another point to be considered in the answer to the question whether we shall destroy, by treatment, the present crop of young scale. The young scale hatched out in late spring and early summer will be a heavy draft on the orange tree, now carrying a good crop of fruit and engaged in storing up the reserve material for the blossom and set of the next crop of fruit, the coming spring. In very many instances this present crop of scale, if left without treatment, will materially reduce the set of fruit for the next crop. The present cool summer, with fog from the ocean nearly every night, has been very favorable for the young crop of scale here in the vicinity of Pasadena. There has been no hot days to destroy a part of the newly hatched scale, as occurs in ordinary seasons, and every scale hatched seems to have lived.

* * *

AS TO THE FUTURE.

One thing should be remembered in figuring on the future work of the scutellista. It only atacks the old scale in the egg stage, and the fly propagates rapidly in the hot weather of mid-summer and very much slower in the cooler temperature of late fall, winter and spring. Black scale remains dormant and does not continue to develop when the tree or plant on which it is located is dormant and there is but little flow of the elaborated sap of the tree or plant.

It is a question whether any of the mature scutellista of the summer and early fall live through until the next spring. With a warm, open winter there will be a little work of the fly through the winter and a small stock of parasites will thus be carried through the winter. With a cool, wet winter there would certainly be but a very limited stock of parasites to begin with in the spring. Our experience this year has been a very slow rate of increase of the scutellista during the spring months, the more rapid development of the parasite not taking place until the months of July and August. One discouraging feature which I noticed this year was that the stock of parasites in orchards where they were in good numbers last season, was very small this spring, it being hard in many cases to find specimens of the larvae or pupae under the shell of the scale. A considerable portion of this small stock of old scale on these orchards hatched an early brood of young scale that gives an increased stock of scale to go over to another year.

* * *

INJURY FROM BLACK SCALE

Is in the loss of sap and from the fungus which covers the leaves and fruit. By the loss of sap the vitality of the tree is reduced, often causing a severe dropping of the young fruit, especially when there is a large stock of scale and the orchard has not been fertilized. I have noticed where an orchard has been well fertilized and properly irrigated and cultivated, that it can carry a good stock of scale and set a full crop of fruit. In this case cost of supporting the scale should be considered as included in the sum paid for fertilizer and extra culture. With the black scale removed it will require less fertilizer to obtain desired results. The presence of a large stock of scale will have a tendency to produce small, inferior fruit. Aside from the loss of sap diverted to the support of the scale, the vitality of the tree is further reduced by the heavy coating of smut which covers the leaves, and interferes with the tree's functions of digestion that take place in the leaf. The sunlight shining through the green coloring matter of the leaf separates the oxygen from the carbon dioxide, the former is given off again into the atmosphere and the carbon dioxide is retained as an important element of plant food; the heavy coating of smut on the leaf interferes with this process. The coating of smut which covers the fruit prevents the proper coloring of the fruit and necessitates the washing of the fruit before marketing. The expense of washing, the loss from increased decay due to the additional handling in cleaning, and possible increase of moisture of the packed fruit, added to the inferior quality of fruit and reduced quantity as compared with the expense of treating the scale, is the strongest kind of an argument in favor of cleaning the citrus orchard from black scale.

We shall take up the treatment of black scale in next week's Cultivator, but would say now that the early hatch of scale will demand early treatment or otherwise the scale will get too large for ordinary treatment.

Peas 500,000 Pounds Two Hundred and Fifty Tons **Peas**

Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

The T. J. Rogers Fumigating Co.

FUMIGATORS and SPRAYERS

With years of practical experience and employing only competent men we are prepared to do first-class work at reasonable prices. Correspondence solicited. Best of references.

Address: South Pasadena, Cal.

Refer to Advertising Manager Cultivator.

"Oh, we can fit you, all right, all right!

A HOEGEE TENT FOR THE BEACH

Send for a Catalogue

HOEGEE'S

Irrigating Hose
Khaki Clothing
Stack Covers
Fruit Picking Bags

The Wm. H. Hoegee Co.

Incorporated

Phones—Exchanges 87 138-142 So. Main St., Los Angeles

New Gun Catalogue now in printer's hands

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

CACTI IN SUMMER.

Look after your collection of cacti; it is well to remember that they should be in the full sun even during the hottest part of the year. While this is true, it is equally true that most plants of this nature suffer from lack of water during the summer. To overcome this all pots should be shaded from the sun and the best way to accomplish it is to plunge them in the ground up to the rim of the top—in winter they may be lifted out. Some few cacti do equally well in the shade and these are the Epiphyllums ("Lobster Claws"), the Phyllocacti ("Leaf cactus") and the climbers. All of these latter are liable to injury by frost and should be protected during winter.

* * *

CACTI FOR BEGINNERS.

Echinocereus Berlandieri.—A dwarf growing plant, forming large clusters; extra fine purple flowers which are sweet scented. This is an elegant pot plant. Keep in the sun if blooms are desired. A very showy and satisfactory sort.

* * *

Echinocactus Pectinatus.—This is one of the best blooming cacti that can possibly be obtained. The flowers often measure two to six inches across and are of a bright purplish pink color, and very fragrant. The plant itself is very ornamental, the spines being white and so closely pressed to the stem that they can be handled without harm. There is no other Echinocereus that we can recommend so highly, excepting E. C. Candicans.

* * *

Echinocactus bicolor.—Stems four to eight inches high. Flowers between two and three inches long; petals rose purple; spines all the colors of the rainbow; a very desirable plant and one of the best of the cheap varieties.

* * *

Echinocactus setispinus.—One of the best bloomers to be had, which make up for the little beauty in the plant. Will bloom from early spring until late fall, and then be brightened during winter with coral-red fruit. The flowers are very large, yellow, with a red circle inside and very fragrant.

* * *

Cereus Coccineus.—If flowers are desired this is the plant to get. It is one of the best bloomers, flowering when not more than 4 or 5 inches high. The flowers are of the most intense scarlet, of large size, last for many days, and are produced in abundance. Plants make several stems of one inch in diameter and two to three angularis or Macdonaldi. On these it makes double its normal growth and blooms very freely.

* * *

HOUSE FERNS.

No class of plants grown for their foliage can compare with the exquisite beauty of the ferm for decorative purposes. Their finely cut fronds have a delicacy and gracefulness of habit foreign to other plants. Although they are now quite extensively grown, they are not nearly as frequently seen in the house as their merits deserve. The finer varieties are undoubtedly more difficult to grow than the ordinary run of plants raised for house decoration, but we have many sorts that take kindly to house culture.

Most of the better varieties love heat, shade and moisture in their growing season, and to have nice plants for winter use it will be necessary to grow them in a rather close, cool, shady place during the summer months. For this purpose a frame of sufficient height to admit the plauts

without touching the glass as they grow will answer every purpose to those who have not the convenience of a greenhouse. Those who have plants already and desire to multiply them, may divide them, if that is practicable (some of the kinds cannot be divided) Any good fibrous loam mixed with about one-third of well-rotted manure will supply a congenial material for all our more common ferns.

Young plauts purchased in the spring and repotted into larger pots, will will make handsome window plants by winter. Watering will be about the only care necessary after the weather is warm enough to leave them in the free air constantly. Ferns must never be allowed to suffer from want of water; many of the varieties, if allowed to wilt, will be ruined for the time, and the labor of a season lost. Towards fall more light ought to be given, and a less moist atmosphere maintained in the frame to harden the plants for their ordeal with the dry atmosphere of the living room.

The Immediate Cooling of Fruit

The cyclone system placed in operation by A. R. Sprague in shipping deciduous fruits of the California Fruit Exchange.

Wishing more extended information regarding the cooling system of which many papers have spoken, we have asked Mr. Sprague to furnish to us an account of the performance of his system and description. In the letter accompanying the article, Mr. Sprague says:

The methods are similar to Mr. Powell's methods, excepting they are far more effective, for it was impossible for him to cool a heated car of oranges or fruit short of one and a half or two and a half days, by using special refrigerators and packing in low tiers. During this time, of course, the fruit is degenerating, this process is arrested as soon as it gets sufficiently cool, but it begins again as soon as the fruit is out of the car; while by the Cyclone Cooler process we cool the fruit within a few hours and so quickly as to prevent the beginning of degeneration and hence when the fruit is taken from the car in the East it holds up amazingly well, much better than when shipped greener under ordinary refrigerator methods. I know nothing of the process of extracting the air from the fruit and replacing with nitrogen referred to by Mr. Isaac I understand this is being done in a small way at Antioch and we have made a small shipment in one of our cars for that company.

The description is as follows:

Cyclone Cooler.—The process of cooling a car of fruit by the Cyclone cooler, consists in forcing a large volume of air down through the salt and ice of one tank, then dispersing this blast through the fruit in the car and then sucking it out through the other iced tank and through the condensing chamber, and continuously forcing it through the same path until the fruit is cooled.

Where there are very heavy shipments from one point we use a brine pipe chamber as cooler and condenser, and otherwise use same apparatus for cooling cars except that they are iced after instead of before the application of the cooler. We save twenty degrees of refrigeration by use in the condensing tube of the brine from the salt and ice melting while the cooler is applied.

The time required to make a car of hard-ripe peaches secure from decay during a shipment lasting from one to two weeks varies according to conditions, from one to five hours. When the right temperature is reached the connections with the ice tanks and drip tubes are removed and the car is ready to send on its way with the ordinary refrigeration.

It will be noted that the usual refrigerator cars, of any pattern, are used without modification and the fruit is loaded and braced as now, the cooler being then applied for the time necessary.

In using this quick cooling process it becomes quite immaterial whether the car is delayed a day or two or not, after cooling. It will carry safely. Then too, the fruit may be safely received on the platform, or in the loading shed at any time during the day, regardless of whether or not an iced car is ready to receive it, since the exposure is a slight matter for fruit which is to be thoroughly cooled before shipment.

Twenty cars of all sorts of deciduous fruit have thus far been treated by the Cyclone Cooler, including the most delicate hard-ripe peaches and nectarines, and in no case have these shown any further ripening or degeneration. Fruit soft-ripe and bruised when shipped arrived in the same undesirable condition, but not rotten, as it would have been if not cooled before shipment. If any shipper will get into his fully iced car after it is loaded and then have the doors closed, he will quickly realize what the stifling hot and moist air is likely to do to his fruit. During the two or three days necessary to cool such fruit by slow movement of air from and to the ice tanks such harm is done that the most perfect refrigeration during the rest of the trip cannot prevent its arriving at destination more or less decayed, or if apparently sound it is often so "started" that when brough out of the iced car it quickly breaks down. Fruit quickly cooled before shipment never starts to decay and hence will keep well after leaving the iced car. This was shown in the case of the hard-ripe peaches unloaded from the Oleander car, July 10th in Chicago, and kept in store without refrigeration for a week without decay.

This invention will not make it profitable to be careless in packing or handling fruit, but it will save almost completely from losses in transit the vast tonnage of good, well handled fruit, which now breaks down so badly in transit. In the case of all deciduous fruits, when this process is used, the fruit should be left upon the tree until highly colored and sweet, but still hard. In this way twenty per cent is gained in weight and sweet, high flavored fruit may thus be delivered to eastern consumers.

In the case of citrus fruit and vegetables shipped under ventilation it will doubtless be useful in thoroughly airing out and equalizing the temperature of the fruit or vegetables, and cooling and drying to the desired degree, while for citrus fruit shipped under refrigeration it will prove quite as useful as with the deciduous fruits.

Arrangements are made to promptly supply this apparatus for the use of all shippers desiring it, upon promise of sufficient business at one point to justify establishing such a plant, probably not less than fifty carloads. Payment for the use of the cooler being made by charging a small sum per car. —A. R. Sprague, Sacramento.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, Etc
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

WHEN TO USE LIME.

In the Country Gentleman we note the following summary of conditions under which it is wise to use lime:

1. Where the soil is acid, as in many parts of Rhode Island.

2. Where the soil is a heavy or sticky clay. Lime will lighten up the texture and make it workable. It will lessen the liability of clod formation and make the soil friable.

3. When, as in market gardening, it is desired to sacrifice the organic matter of the soil to quick growth of crops.

4. When clover does not do well. Lime acts upon potash salts to set free a soluble potash compound, and hence it is not true that lime acts alone upon the nitrogen-carrying materials. When clover fails to make a good growth, perhaps making a decent catch, but afterward failing either to make a good stand or to produce a full crop, the farmer should test the matter of the value of lime by applying it to part of a field and noting results. He will probably find that there is a call as well for phosphoric acid and potash, and to part of the area to which lime is applied there should be added these materials.

Do not apply the lime in excess; as a starter, not more than 200 pounds per acre. The English farmer has stopped applying it by the ton, as he used to do.

5. When about to sow alfalfa. Here the demand for some base with which the nitric acid set free by the germ fixing nitrogen in the roots of the legume is imperative, and it is better not to run risks, but to apply the lime before the seed is sown.

* * *

The Ohio Expreiment Station has carried forward a series of experiments testing the value of lime on the rather light soils of the station farm. On a certain series of plats, one end was limed while the other was not. The lime was applied to the corn after plowing and before planting the seed. The rotation was corn, oats, wheat, clover and timothy. The clover failed in 1902 and 1903, and soy beans were substituted. In 1903 the corn was ruined by grubs, and was not taken into account in the tables.

The tables in Bulletin 159 of that station show a notable gain from the application of lime, averaging fully ten bushels per acre of corn, although it was on the clover that the most conspicuous gains were made. For instance, where phosphorus, 20 lb., and potassium, 108 lb., per acre, were added, the gain from lime was 2162 lb. per acre. Here too the gain from the fertilizers was 1124 lb.

Where nitrogen, 38 lb., was applied with phosphorus, 30 lb., and potassium, 108 lb., the nitrogen being in the form of sodium nitrate, the increase due to the lime was 1501 lb. of dry hay per acre. Where the nitrogen was in the form of linseed meal, the gain due to the lime was 1915 lb., and when in the form of either dried blood or sulphate of ammonia, the gain was approximately a ton of dry hay per acre. The influence of lime is here very large indeed, even if the soil be not a clay.

So where barnyard manure was applied at the rate of 16 tons per acre, the gain where lime was also applied was 1503 lb. per acre of hay. Again, where muriate of potash and acid phosphate were applied without lime, they produced no increase in the crop, but where lime also was applied, the gains were equal to those made where large quantities of nitrogen were used. Moreover, the crop was clover, and not largely weeds and timothy, as it was where no lime had been applied. The result is thus stated:

"Reviewing the table as a whole, we see that on the unlimed land the average unfertilized yield of hay had been approximately half a ton per acre, and no fertilizer or combination of fertilizers has materially increased this field, except when used in conjunction with either lime or large applications of nitrogen. Lime alone has nearly doubled the unfertilized yield, and has more than doubled the yield obtained from fertilizers containing no nitrogen, or from other carriers of nitrogen than nitrate of soda or barnyard manure. Nitrate of soda appears to have materially increased the yield in all cases, but it has required the help of some carrier of phosphorus at least, if not also of potassium, to produce the maxumum yield."

Where lime was applied directly to the wheat, sowing on the surface and harrowing in at or about the time of seeding, it did not increase the yield of wheat, but did improve the clover following. This may be accounted for by the fact that the chief use of lime in that particular soil may have been the preperation of the soil for the life of the little bacteria interested in fixing free nitrogen or in converting the humus into forms usable by plants, and therefore lime would have to be in the soil a year or more to accomplish the purpose.

As far as acidity is concerned, the need of lime is shown by the usual tests of the litmus paper, care being taken to get good litmus paper and keeping it away from contact with the fingers. The next test is the failure of the clover crop, failure either to make a "catch" or to grow well and produce abundant crops. The disappearance of clover and the appearance of sorrel is another indication.

After all, the best way to manage in reference to lime is to try it on part of the field, applying varying amounts to adjacent small areas, with and without barnyard manure. Where the lime shows a decided difference in the clover, it is needed, and should be applied in relatively small amounts and often. In a four-year rotation of corn, oats, wheat and clover, apply to the corn, putting it on the surface at planting time.

FRUIT CONDITIONS AT VACAVILLE.

One of the Cultivator's staff writing from Vacaville, under date of August 19th, says:

Several buyers are here who want the fruit, and sales have already been made netting good returns. Today a thirty-ton sale of dry peaches was made to one of three or four bidders. I could not learn the price. The Buck Fruit Co., and the Earl Fruit Co., I believe are the largest firms handling eastern shipments of green fruit. Pears are netting now very good returns, some grapes also going.

Called on Mr. Jas. Smith, who, the past two years, has marketed the first box of cherries in Philadelphia. This year he got $100 and last year $70. Their great pest is what he called a "green measuring worm." Each tree is protected by having a strip of wire screen put around and projecting out and down so the worms cannot crawl up.

The pear blight is very bad here, where it is not being continually cut away. That is apparently the only cure for it yet found.

A MARVELOUS VEGETABLE.

Perhaps no vegetable has excited more comment, been more widely advertised throughout California, or developed more demand, than the Crimson Winter Rhubarb, introduced in 1900 by the Wizard of Santa Rosa. Early recognizing its importance, Mr. J. B. Wagner, of Pasadena, in the fall of 1891, paid the then prevailing fancy prices for the best stock, from which he has developed the finest of plants, and during the past few years built up an enormous business. During the past season many valuable improvements have been made about his home and nursery yards, largely from the sales of this product alone.

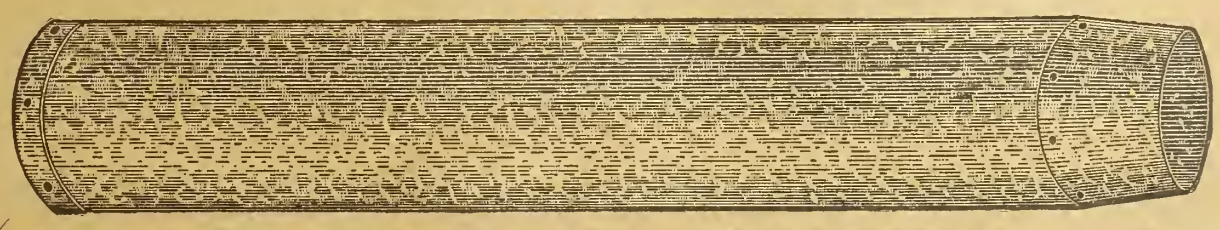
A recent visit to the Wagner nursery found the proprietor busily superintending the building a a large addition to his residence, and the response to the query, whence this prosperity, met with a cheerful nod to the rhubarb field.

While at present advertising the rhubarb line, it is really but a side issue to the general nursery and citrus industry which Mr. Wagner has built up within the past few years. Stock true to name, whether the magnificent navel, or walnut tree, the vine or berry, or rhubarb root, such has been his aim. Honest dealing, courteous treatment and satisfied customers have advertised him far and near. His announcement appears upon another page of this paper.

Some have used sawdust as an excellent keeper for sweet potatoes. It should be thoroughly dry; so should the sweet potatoes.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino
When writing advertisers mention Cultivator.

SHASTA ROUTE is the way to the great
SOUTHERN PACIFIC
LEWIS & CLARK EXPOSITION
Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.
$35.00 ROUND TRIP
Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles
SOUTHERN PACIFIC


TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE
Tallerday Manufacturing Co.
PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles
MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES
When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, August 25, 1905

CONTENTS.

	Page.
Incubating Resistant Grafts	171
The Mexican Orange Maggot	172
Bee Keeping for Beginners	173
California Table Grapes	173
Cost of Berry Crop	174
Raisin Industry	174
Scale and Insect Pests	175
Cacti	176
House Ferns	176
Cooling of Fruit	176
When to Use Lime	177
Fruit at Vacaville	177
Editorial	178
Coast News Notes	179
Bacon Hogs	180
Good Dairy Cow	180
Better Prices for Milk	180
Veterinary	181
Dry Food Hopper	183
Poultry Question Box	184
Household	188
Recipes	189
Markets	190-191

Packers to Be Tried.—At last it seems that the iniquitous combination of meat packers in the United States is to get its deserts. After robbing the people by charging outlandish prices for dressed meats, first having stolen the profit of cattle raising from the producer, and driven into bankruptcy thousands of small stockmen, it proposed to still further add to the crime of its business by advancing the rate on dressed beef. The government then took a hand in the proceedings and ordered an investigation into the methods of the combine. The result was indictment of about a dozen different meat packers. Now it is announced their trials will come off this fall, and the government will use every honorable means to bring the violators of law to terms. The great injustice to the public is seen in the fact that the combine put the price of meat so high the poor could not use it. We have been placed in the position of some of the older countries of the world, where the poor can only buy meat once a month. While wages are higher in this country, of course, our common people have been used to eating all the meat they desired, but the price of a good roast, nowadays, has been equal to half the day's wages of the common laborer, and he simply couldn't afford to buy it. The enormous falling off in the consumption of meat in the United States has been caused by the excessive price charged for it. If the combine can be broken by the conviction and punishment of the packers in the combine, the common people will get their rights.

Of course the contest will be a bitter one. No millionaire packer or meat trust magnate is going to the penitentiary if he can keep from it. The highest priced legal talent will be employed. The labyrinthian mazes of technicality will be thoroughly explored. But the government means business. It will meet talent with talent. Greek will grapple with Greek. No guilty man will be permitted to escape. The facts will be presented. The law will be made plain. The time has about arrived when the merits of an important issue are to be tested. The American people can afford to await with patience for the final result.

* * *

Irrigation and Rainfall.—One of the most successful orchardists in Southern California tells us that he secures excellent results from spraying his orchard once or twice a season with cold water. He has a tank rigged on a wagon, which he fills and going between his trees sprays them, thus removing dirt on the leaves, giving them a chance to breathe freely, as well as washing off any scale. With young trees this has proven a fine tonic. A bath for a plant is just as necessary once in a while as for the human body, and what is good for a plant is equally good for a tree. Care must be exercised to spray judiciously but still there isn't much danger in injuring a young tree if the force of the spray is not too great.

We all notice how trees brighten up after a refreshing rain. This is not entirely due to mostening the soil, but to the cleansing of the leaves and the removal of dust and other substances on them which create an unhealthy condition and retard growth.

Two views exist as to the relative value of irrigation and rainfall. There are those who hold that rain is charged with a higher per cent of the elements which make trees and plants thrive than water which runs through ditches or pipes exposed to the air. Another class holds that water used in irrigation carries with it fertilizing agents, such as mineral from the mountains and from decayed vegetation and is therefore better for plants and trees. Experience has taught some of us that proper washing of young trees gives them life and growth, as also irrigation in ditches by the side of plants, and around trees, keeps them constantly growing. Surface spraying isn't good for plants. Water to be efficacious must run slowly about the tree, much as rain falls, allowing the moisture to descend evenly but not with a force which will bake the ground when it begins to dry out.

Agriculture began in arid regions, and under the practice of irrigation, it is claimed, has been successful in maintaining a denser population in the same area than in regions where irrigation is not practiced and reliance placed on rainfall. Those of us who come from the Middle West know that too much water deteriorates the quality, especially in grain and fruit. It is not in wet seasons that fruit and grain are produced of the best flavor or the largest nutritive qualities. Certain plants require more water than others, but they are not the best for sustaining vegetable life. Where there is excessive moisture the fertility of the soil is sooner exhausted. Wet lands become heavy and obstructive to the growth of many things, for they exclude the atmosphere from the roots, which is an important stimulant to growth. To get the best results the earth must be kept in a loose, well cultivated condition, for thereby the roots take strength and the tree becomes hardy. The same is true of cereals like corn. Philosophy may be resorted to to point out results, but, after all, the homely saying that "the proof of the pudding is in its eating" best demonstrates the facts, and the facts show that irrigation will produce better results, all things considered, than rainfall.

So when the Owens river pours its life-giving current into this, the most wonderfully rich country on the globe, we shall be independent of rains and control the seasons, and the growth of trees, and plants and crops as we choose, making a country possible of supporting a population equal to the cities of New York and Philadelphia combined. Great beyond expression is the future of Southern California.

* * *

Prosperous Farmers.—The Cultivator has been telling its readers, once in a while, of the bright side in the farmers' life, of the things he might do for himself and his family, to lighten the daily burden of a somewhat monotonous existence. For example, once a month take the family and go to some beach resort and spend the day, or go to town and take in the inspiration of the bustling crowd, or get up a neighborhood picnic and hie away to the grove and there rest, exchange thoughts with others and get new ideas on subjects of common interest. It's all a good tonic for man, woman and children. It gives refreshing rest, adds zest to work and brightens the whole scope of the home. These suggestions are again made by the following telegram read in an Iowa paper. It says, under date of August 9th:

"A special Pullman car left Essex for Portland at 7:30 a. m. today. The car will be sidetracked at Denver, Colorado Springs and Salt Lake City. There were twenty-nine persons in the party. They will attend the fair at Portland, and return via a different route."

Think of it! Twenty-nine farmers chartering a Pullman car and "hiking" it off to Portland, to take in the Lewis and Clark exposition and the big towns along the way. Such a thing was not dreamed of ten years ago. Those farmers will go back to their homes filled with new ideas. Their wives will be made younger by the experience, for they will get new and valuable suggestions on domestic economy, as well as how to make their homes attractive. Why, they will get material for thought and gossip which will last them all through the cold winter months—so soon to shut them up within the walls of their Iowa houses.

The farmers of California would do well to pattern after their Iowa brothers. They need not go to Portland, unless they wish to, but they can go to other places and have a good time, for be it remembered that out here in California there are dozens of scenic spots near by, where a day may be spent with pleasure and profit. Take the Cultivator's advice, you toiling farmer, get more enjoyment out of life as you go along. Rest once in a while, work will be better done by recreation taken between the seasons of strenuous toil.

* * *

Let Well Enough Alone.—The reciprocity convention, in session at Chicago last week, developed a new batch of tariff tinkerers under a galvanized name. They call themselves "Dual Tariff Makers," but their ideas are the same, practically, as the tariff revisionists, who have been at work, lo these many years, on one scheme and another, to modify the tariff, with the ultimate end of bringing the country to a free trade basis. It goes without saying, that the Dingley law might be amended in a few particulars, which might be of benefit to the people. No law is perfect and in a country whose powers of expansion are as immense as ours, it is a matter of impossibility to fix a tariff which will be just to each and every interest.

But the question we should ask ourselves when we undertake to remodel the present law is, can we adopt another which will be as satisfactory, all interests considered, as the one now on the statute books of the nation? Experience has taught us that every time we undertake to better the tariff law we incite a period of unrest, financial embarrassment and finally bring about hard times. The only thought Congress should have is, can we better our condition, can we add to our prosperity, can we grow as much, under a reciprocity tariff, so called, as we have done under existing tariff rates.

The experience of business men has been varied. Of course, some years we have not seemed to go ahead as we would desire, but in the long run, in the course of the progress of the nation through the country, we have steadily grown. Our industries have enlarged, our wealth increased, our country matured, our social, educational and spiritual greatness manifested to a remarkable degree. All this is the test of our national tariff law.

The Pacific Coast is, perhaps, in the most critical position to be effected by tariff tinkering of any portion of the country. Its geographical location, ports of entry and developing industries would make it most sensitive to any changes which would disturb the business conditions of the country. As a general rule this fight on the tariff comes from persons who are not students of political economy. They do not understand trade laws, but they seize upon this time-discussed subject to hoist themselves into prominence as political oracles.

The Cultivator, of course, is not, in any sense, a political organ. It does not meddle with the views of statesmen as politicians, but when a question of national economics is brought forward, which, if adopted, would injure the whole country, it has its own convictions of right and wrong and does not hesitate to express them. So of this dual tariff talk, we have only to say, it should be handled afar off; its glittering generalities are too transparent, at present, to permit of finding serious lodgment in the minds of the members of Congress. Let us remember that our tariff policy for the last fiscal year brought the American people over half a billion dollars paid for manufactured goods sold abroad; of this amount California received indirectly a very large per cent of profit. So for the present, let well enough alone, and only disturb our trade relations when necessities of gravest importance demand a change.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

Almond picking has commenced in Tehama county.

Early pears are being shipped out of the Pajaro valley.

Corning is shipping a carload of peaches daily to the Sanitary Fruit Co., at Red Bluff.

Prune buyers are reported as offering four cents per pound around Vancouver, Washington.

The Oregon apple crop is reported good this season. Pears are light and prunes only medium.

About 125,000 pounds of fresh peaches are being handled by the dryers and canners at Corning daily.

Three thousand dollars was the price paid last week for the peaches on a ten acre orchard near Lodi.

W. F. Coulter, of Fullerton, will receive over $9000 for his late oranges from eight and one-half acres.

There have been shipped from Riverside to date this season 550 cars of oranges and 483 cars of lemons.

A new citrus packing house will be erected at Globe, Tulare county, this fall for the use of independent growers.

The big packing house of the Simpson-Hack Co., at Watsonville, is to be again enlarged to handle this fall's crop of fruit.

The San Fernando Press states that C. D. Hubbard, of that place, recently shipped two cars of lemons which netted him $2870, f. o. b. Fernando.

Brun & Chaix have erected at Oakville, Napa county, a large grape crusher to facilitate the handling of grapes at their noted winery.

The California Winery at Sacramento will soon establish a branch institution for the purpose of crushing and distilling grapes at Woodland.

The Citrus Union has shipped from Fullerton the past season 218 cars of oranges. The price received is said to average from 30 to 40 per cent more than last year.

Apple growers of North Yakima, Washington, are beginning to make changes in their orchards by top working the trees to Esopus, Newton and Jonathans.

A correspondent writing from Santa Clara county says that prune drying is on full blast. Most of the apricots are gathered, also early peaches. Canneries are all running up to full capacity.

It is announced that G. Harold Powell will be returned from Washington to Southern California to make permanent headquarters. Mr. Powell will lead in the fruit shipping experiments.

L. J. Bennett at Marysville has a Bellflieur apple tree that has a big crop of excellent apples now ripening. In the same branches are loads of blossoms that have been blooming for the past week.

The Horticultural Commission of San Bernardino county is warning all ranchers who have Russian thistle growing on their lands to clean out the pest or have the cost of doing the work charged up to them by the county.

On Monday of last week a car consisting almost entirely of Malaga grapes, from Fesno, was sold in Chicago for $2741. This is the highest price ever paid for a car of this fruit in the East.

The high price received two weeks ago for California fruit in the East was kept up last week, growers receiving from $1534 to $2741 per car for fruit. This not only for two cars but for dozens of cars.

Sheriff Bros., of Healdsburg, last week purchased sixty tons of fine prunes at Geyserville, for which they paid five cents a pound straight for most of them. This is the highest price paid so far this season.

The Rialto Citrus Union has purchased the packing house occupied by the O. & L. Association and announces that it will continue to sell its crops to the buyer offering the best prices, independent of any agency.

The Healdsburg Enterprise says that prune growers in the vicinity of Geyserville have been offered four and a half cents straight for the crop this year and many are refusing that figure, holding for a higher price.

The orange growers in the San Dimas and La Verne district had a general meeting at their packing house Tuesday. After luncheon, addresses were made by several Eastern agents of the California Fruit Exchange.

The Indian Hill Citrus Union of Pomona, will pay its members $.85 for packed boxes of fruit of all kinds shipped since last November. This will be four cents more than received last year. The increase in price means about $2500 to the growers.

The grape season starts off very promising. The Malagas that have been shipped have brought fine prices. Only a few Tokays have been shipped and they have been well received. This latter crop promises fine, and growers undoubtedly will receive good prices.

The latest report on the grape crop around Lodi is to the effect that wine grapes will yield about one-half a crop, excepting the white wine variety, which will go about seventy-five per cent. The Tokay crop, while hurt some by the hot weather, will be a very fair crop.

J. A. Montgomery, of Rivera, secretary of the Walnut Growers' Association, in a recent interview, stated that the crop around Rivera would probably be heavier than last year, but that the outlook for walnuts in the whole district was not as good as at this time last year.

The horticultural writer in the Ranch, published at Seattle, last week, says that within two days apple buyers from Australia and other places, called on him to find where they could secure the best apples grown in the north coast States. These inquiries indicate that apples will be in demand this fall.

Last week practically closed the shipments of Bartlett pears from the Suisun valley for the season. About two hundred and fifty carloads were shipped from Suisun, which was about one hundred cars short of last year. Notwithstanding the short crop, growers received satisfactory returns for the season, on account of high prices.

The Whittier Citrus Association held their annual picnic at their packing house Tuesday, August 21st, the ladies preparing a sumptuous dinner for the occasion. Short addresses were made by President Story and General Manager Woodford of the Southern California Exchange, and Secretary Reid of the Semi-Tropic. Short talks were also made by several local speakers and with the very pleasant musical and refreshment features the members of the association spent a very pleasant and profitable day. This is one of the strongest and best associations of Southern California, and Whittier has received an impetus in growth from the fact of its strong financial backing of the surrounding country. The walnut, lemon and orange industries have proven very profitable in this section the past season.

AGRICULTURE.

The Chino sugar factory commenced its fall campaign Monday of this week.

The Lima bean crop of several thousand acres in the western portion of Los Angeles county promises a big yield.

The Oxnard Courier says that the Lima bean crop this year promises to be the biggest in the history of Ventura county.

The Brawley News says that about twenty-five acres of Bermuda onions will be planted in the vicinity of that town this fall.

It is rumored that H. W. Hellman, of Los Angeles, has bought the Dixie Thompson bean ranch in Ventura county, for H. E. Huntington.

A. C. Pickett, appointed by the State University, is at work in Southern California testing fertilizers, under the State law recently enacted.

The La Habra Vegetable Growers' Association at a meeting last week decided to incorporate and have a salesman at the old Los Angeles market to handle their products.

A dispatch from Ventura county states that black-eye beans have again risen in price and are now selling for $3.50 per hundred, and dried apricots are over the seven cents a pound mark.

The big sugar factory at Spreckels, near Salinas, will commence its fall compaign about September 15th. The supply of beets immediately around the factory will be larger than for a number of years.

It has been decided that the big Jones ranch of 12,000 acres, in Sonoma county, will be all put under cultivation. About one thousand acres will be plowed up this year and the balance as soon as possible.

Shipments of beets from around Smeltzer and Benedict, Orange county, commenced last week to the Chino sugar factory. About two hundred and fifty cars will be the size of the crop this year from that locality.

Hop picking will soon commence at the Horts Co. hop ranch near Tehama. The ranch now has one hundred and twenty acres first crop vines which next year will be increased to five hundred acres, chiefly because of the good showing made.

A display of particular interest to agriculturists is to be made at the State fair by Mr. F. M. McMillan, of Fair Oaks, Sacramento county. He will show forty varieties of wheat grown on his experimental farm, his labors having been prosecuted principally with the idea of increasing the percentage of gluten in California-grown wheat, and he has co-operated with Professor L. A. Fritz, of the Federal Experimental Station, near Chico.

LIVE STOCK.

About forty head of horses, all blooded stock, will be sold at public auction at Santa Paula September 9th.

Thos. Green of Spadra recently shipped a car of hogs to Los Angeles, receiving for the lot within a few dollars of $1100.

Two hundred head of sheep were shot in Wheeler county, eastern Oregon, this week, which promises to open up the old range war.

Fred B. Smith, of Los Angeles, has made a proposition to dairymen at Brawley, in the Imperial country, to build a $20,000 creamery and ice plant.

MISCELLANEOUS.

Railroad officials say that a larger number of home seekers will come to California during the coming season than ever before in its history.

The new pumping plant installed by the Anaheim Water Co. is now lifting two hundred and seventy-five inches of water, which is being turned into the Anaheim ditch.

A dispatch from Elsinore states that Messrs. Holdman and Houk, bee men, are loading a car of honey for shipment, price on same being over nine cents. Eastern buyers are also reported in the market looking for comb honey.

Wm. Lehr, of Forestville, Sonoma county, will add about ninety thousand gallons to his cooperage, also a modern still and large hydraulic wine press. He is also building an annex to his winery with a floor space of thirty-seven by one hundred and thirty feet.

According to returns from Utah State Board of Equalization, based on 1905 assessment, that State has $2,139,000 worth of horses and mules. It has 217,600 head of cattle, valued at $3,510,000, an increase of 13,000 head over last year. Sheep also show an increase of over 40,000 head and are valued this year at $3,922,000.

The annual convention of the National Irrigation Association, which opened at Portland on Monday, is a big success, over one thousand persons being present when the president called the first session to order. Men prominent in irrigation affairs were present from all over the United States and many strong papers were delivered.

Among the lines of work offered at the Polytechnic school at San Luis Obispo for the coming year are Physics and Electricity. Students in the course in Mechanics will have most to do with these branches, being engaged with one or both of them during the three years of the course. Students in Agriculture will have class room and laboratory physics during their third year, and will devote sufficient time to gain a comprehensive grasp of its most important features.

C. H. SESSIONS, ASSOCIATE EDITOR

AMERICAN BACON HOGS.

Our bacon hog differs considerably from the English bacon hog. There is, however, a growing tendency toward the typical bacon hog. The indications point to the fact that we are at the "parting of the way," and that in the future we will have a place for the ideal bacon as well as the fat or lard hog.

Corn is at present being used for other purposes, such as the manufacture of corn starch, whisky and oil, The latter is used for various purposes, as for lubricating, a table oil, as a substitute for olive oil, linseed oil, etc. This has caused the price of corn to go up to nearly what other grains, used as hog feeds, are worth. At the same time a ration of all corn, which usually forms the principal part of the feed of the fat or lard hog, is coming to be generally recognized as detrimental to the best development of swine from the breeder's standpoint. These things are the cause of a gradual drifting toward a more mixed ration in swine feeding, and usually a ration containing more protein or flesh forming material. Coupled with this, there is not so great a demand for fat pork as there formerly was, and shipping and cold storage facilities are much better, consequently more fresh and lean meats are used.

These various factors are gradually, but most surely effecting a change in the character of swine in the United States. The all fat hog of the past will in the future be partly replaced by the bacon hog, and the fat or lard hog as a whole will in the future more nearly approach the bacon hog in form than in the past. Of course, there will always be a demand for lard, consequently there will always be a place for the fat or lard hog. But the bacon will occupy a more prominent position in the future than he has in the past.

There is a demand from foreign countries and more largely from our own country, for bacon, and there being few bacon hogs to supply the demand, the trade is supplied from the lighter hogs of the fat or lard hog type. This bacon, however, does not command so high a price on the market as does bacon from typical bacon hogs. The bacon hogs under consideration here weigh from 155 to 195 pounds, and range in age from six to eight months. They are simply hogs selected from the light hogs in general, that conform as nearly as possible to the bacon type. They are not very fat, have fairly good development of muscle, or lean meat, and are as long and deep inside as is possible to obtain them. About 20 per cent of the light hogs that come to the Chicago market are of this type.

Choice bacon hogs are the best of this class; they are hogs that show good lenghth and depth, good quality, and are smooth, well developed and not very fat. They are hogs that have had considerable exercise and have not been fed on an exclusive corn ration. These bacon hogs are selected for the most part from shipments that come from outside of the corn belt, where the principal feed is similar to that used in Great Britain, Denmark and Canada for bacon production, viz., oats, barley, rye, peas, skim milk and pasture.

These are the feeds that are conducive to the production of the best bacon when fed to hogs of the bacon type, and when fed to hogs of the fat, or lard hog type bacon hogs such as we have under discussion here are produced. These bacon hogs have more fat on the outside and less lean meat on the inside of their carcasses than the typical bacon hogs, but are better in these respects than the typical fat or lard hog. In truth, this bacon hog is an intermediary between the fat or lard hog and the typical bacon hog, being more like the former than the latter.

The good bacon hogs of this class may be of poorer quality, may be lower in condition or may be too fat or too much of the fat hog type. Any one or all of these conditions would be the cause of hogs grading lower than choice.

If there is still more marked deficiency in these characteristics, the hog will grade as a common bacon hog. But this hog has sufficient quality and condition to show that he has been well fed and has been fed so that his sides will do to cure for the cheaper grades of bacon.—William Deitrich in F. S. J.

THE GOOD DAIRY COW.

The pail is indeed the only true criterion of the large milker and of the big butter producer, says Dairy Produce. One of the most instructive exhibits in my collection of dairy facts is a number of life portraits of great milkers and butter cows; but it would puzzle any good judge of such cows to select the champion cow out of the lot of over fifty portraits.

A heifer coming fresh in June would have the best opportunity of making a good udder, and of course, the better the form or yielding ability of the udder, the more the cow would be likely to develop into a good milker. The first year of a cow's life will almost surely make or mar the future of the animal. But is is not sufficient alone, for a cow is growing in form and ability to milk for at least four years. I have known cows neglected for even three years after that age to make most excellent milkers, improving as buttermakers yearly up to five years or even more.

Great importance is justly given to inheritance. But heredity only gives the ability to develop parental qualities; it does not give ability to make something out of nothing. Thus selection of parents is only the first element in the culture of good qualities in animals. It is the sowing of the seed; but good seed must be sown on good soil to insure a satisfactory product. Inheritance does not give good qualities any further than to enable the offspring of good parents to develop by the aid of their natural inherited abilities the good character of the parents. The inheritance is only developed by proper training; and it is the best culture of natural abilities which develops the possibilities of them. This training must start from the day of the heifer's birth, and continue, without failure, until the cow, so reared develops into the maturity of her powers.

There are instances in which this natural ability may have been made dormant by neglect, and for years the cow has shown no special excellence either as a milker or a butter producer, until accident has brought out the dormant natural ability. It is also true that good milkers can be made as well as being born. It is well known that calves may be brought to milk when a few months old by the mere massage of the udder which stimulates its growth and premature development. Then it may be reasonably hoped that the calf of a superior milker may be made to succeed the dam in this way by the stimulation of the natural function by the well known process of massage. I have proved the great value of this treatment in the training of calves, and at the same time of the value of training in the way of culture of the appetite, and in the ability to digest ample rations of rich foods.

HOW TO GET BETTER PRICES FOR MILK.

A writer in the Jersey Bulletin gives some ideas on "better prices" for milk which are so pertinent that we repeat nearly in full:

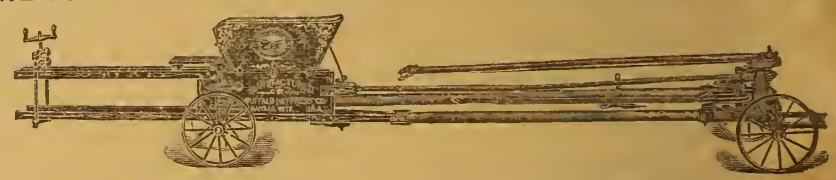
"Want better prices" is the slogan of the dairyman this summer. Prices in the milk markets are governed by the law of supply and demand, of course, but to get better prices for milk than the market prices we shall have to get it cleaner from the cow and take proper care of it until it reaches the consumers. This will require vigilance as well as care, but good clean milk soon earns for itself a demand and a reputation can be built up in a short time.

* * *

WHITEWASH THE STABLE.

This can be done very nicely by spraying. It kills the germs and colo-

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

WE ARE THE LARGEST DEALERS IN HAY PRESSES IN CALIFORNIA

THE BUFFALO
Has 31½ inches ACTUAL feed opening. Greatest Capacity. All steel; durable.
We manufacture BUCK RAKES, Stackers, Gang Plows, etc. Write or see us before buying.
We Have a Good Assortment of Second-Hand Presses on Hand Now
L. A. MARTIN & SON - 129 WILMINGTON ST., LOS ANGELES, CAL.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

FLYO-CURO
Will Free Your Stock of Flies and All Kinds of Insects
COTTON SEED MEAL
The "Economic Feed" for Stock
KOW-KURE BAG BALM
HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins
CALIFORNIA'S FINEST
Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.
PIERCE LAND AND STOCK CO.
RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON
884 James Flood Bldg., San Francisco

nies of molds on the walls and gives a wholesome effect and appearance. It should be renewed at least twice a year. Whitewashing the walls twice a year may appear too often to some people, but we will lay that down as necessary from a bacteriological point of view. In some countries it is done four times a year, and it is not without good reason; however, time is more precious here and labor higher, so we will try it twice a year until there is trouble from that source. Some folks think if they get it done once a year they are doing well, but that is not sufficient.

* * *

DRAINAGE.

And the barnyard should be considered. The stable and barnyards should be properly drained, and no musty feed or rotten ensilage allowed to lie around the stable; because milk is not so often spoiled by the bad odors which cows may transfer to it through their food, as by the dust that arises from musty feed and the bad smell from ensilage getting into the milk after it is drawn.

* * *

CLEANING THE STABLES.

Clean out the stables at least twice daily; drain off all water if any; sprinkle the floor with plaster every other day. In the absence of land plaster, use shavings from the planing mill, or some kindred absorbent. We will try and do with as little bedding as is consistent to the cows' comfort and necessity and not have too much; otherwise there will be too much dust to contend with, and although it may not be visible to the eye it is there all the same.

* * *

VENTILATION.

Is something that should come next. Each stable should be ventilated with regard to its requirements, and therefore no rule can be laid down as general to apply in all cases. In some hot climates the walls of the stables are one-inch lumber, put up unseasoned, and in summer time there are spaces between the boards of about two inches, yet some owners consider they must have regular ventilating shafts running up the walls!

GOOD MILKING NECESSARY.

To milk the cow right is one of the most important things about the dairy. Careless or inferior milkers must not be tolerated. A slow milker will injure your profits by not doing an important work right. He should be in sympathy with his work. If he hustles through the work the chances are he will not milk out clean and the cows will go dry long before their time.

At the Wisconsin Station the average daily production of milk for one month from 24 cows was increased 4.5 per cent by means of better methods of milking and fat 9.2 per cent. The average gain in milk per head per day was one pound, .09 of a pound. —Successful Farming.

ANOTHER GOOD JERSEY.

From Official Tester Burgess, of the A. J. C. C., we have the following:

Seven day authenticated butter fat estimate of Miss Hazelton 2nd 148309, H. N. Williams, owner, Compton, Cal.

Date.	Milk, lbs. oz.	Test, per cent.	Fat, lbs.
Aug. 9, a.m.	22.	6.2	1.364
Aug. 9, p. m.	17.8	3.8	.490
Aug. 10, a.m.	21.0	4.0	.840
Aug. 10, p.m.	22.11	5.8	1.315
Aug. 11, a.m.	19.4	4.2	.808
Aug. 11, p.m.	19.8	3.9	.760
Aug. 12, a.m.	21.10	5.3	1.156
Aug. 12, p.m.	19.18	6.3	1.228
Aug. 13, a.m.	22.4	4.7	1.045
Aug. 13, p.m.	20.14	4.9	1.022
Aug. 14, a.m.	21.12	4.6	1.000
Aug. 14, p.m.	20.6	4.1	.837
Aug. 15, a.m.	20.10	4.0	.825
Aug. 15, p.m.	20.10	3.8	.783
Total	289.9		13,473

Butter 85 per cent fat, 15.85 lbs. Average per cent in milk, 4.65; actual weight of cow, 945 lbs.

Her greatest production of fat was on August 12, when she gave 41 lbs., 2 oz. milk that indicated 2.384 lbs. of butter fat, equivalent to 2.80 lbs butter, 85 per cent fat. Her great yield of milk was on August 13, 43 lbs., 2 oz.

The reason her test varied rather more than usual was that she came in heat August 11th. The average per cent of fat in milk will show the richness of the cow at normal when in full flow of milk.—C. S. Burgess, tester A. J. C. C.

STUDY COUNTS.

It is as clear as noonday that the amount of profit a farmer gets from his cows can be measured by the amount of intelligence he puts into his work. The amount of intelligence is accurately guaged by the amount of dairy reading he peruses.

Intelligence is on top everywhere. Ignorance of dairy work, of right methods, is found in great abundance among farmers who have kept cows and barely squeezed through all their lives. Indeed, we find that the young man who is just going into the business is a great deal more apt to try and inform himself than the older farmer who "knows all about it."—Hoard's.

POWER ON THE FARM.

Along with improved machinery for farm use has come a necessity for cheap farm power. Gasoline engines will undoubtedly become the universal power used on most farms because they are easy to start and no time is lost in firing for steam. A gasoline engine can be started at any time, night or day, in less than a minute's time and give full power, and then can be left for hours at a time without attention, if necessary, and there is no danger of an explosion. A coming novelty in transportation is the gasoline car, by which a car is operated on railroad lines with greater speed than the steam car or trolley, and at a less expense.

The manufacturers of these engines have simplified these machines so there is nothing about them but what can be understood by a little study by one of ordinary intelligence. The cost should not keep the farmer from purchasing because machines are manufactured small enough for the average farmer's work and powerful enough for the large farmer to use to an advantage. The first cost is the only real item of expense. It is an ideal power for the farm and there are so many places in which it can be made useful. There is the feed to grind, the wood to saw, the separator to run, the shredder, pump, cornsheller and hay cutter to drive, and by mounting the machine on trucks, much work can be done for neighbors who are willing to pay for work that they could do were they but wise enough to purchase a machine.

With the scarcity of labor, the farmer must look for devices in machinery that will do efficient work and save labor expenses, a machine that can be depended upon to supply power at all times at short notice. The small gasoline engine on the average farm is fast meeting this want.

Do every possible thing to prevent dust in the cow stable. Sprinkle land plaster over the floor after cleaning. It will absorb all liquid and preserve boards. Do not allow cows to dry up during the later part of summer as this necessitates keeping them through winter giving a smaller flow of milk than they should.

A good and durable whitewash is made as follows: Slake a half bushel of fresh lime with boiling water; dissolve six pounds of fine salt in water and thoroughly mix this with the slaked lime, thin with hot water and apply it while quite hot.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."
When writing advertisers mention Cultivator.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
Jerseys with a record as milk and butter producers
Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams. for sale.
L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

TUBULAR Starts Fortune
If you had a gold mine would you waste half the gold? Dairies are **surer than gold mines**, yet farmers without separators only half skim their milk. Tubular butter is worth 25 to 35 cents. Cream is worth one cent fed to stock. **Are you wasting cream?**
Sharples TUBULAR CREAM SEPARATORS
Like a Crowbar
Tubulars are regular crowbars—get right under the trouble. Get the cream—raise the quantity of butter—start a fortune for the owner. Write for catalog U 260
THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

IMPERIAL VALLEY HERD
DAIRY SHORTHORN BULLS FOR SALE
Admiral Dewey 183493 and King Edward 184393 at head of herd. Address
Fred Fuller & Bro. Imperial, Calif.

Berkshire Hogs ♦ Dairy Shorthorn Cattle
I am booking orders for pigs for September delivery. G. A. MURPHY, PERKINS, CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Holsteins For Sale
From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.
MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

PAXTON'S VETERINARY REMEDIES
for Horses and Cattle. Write for circular.
Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles
Lab'tory at La Porte, Ind
When writing advertisers mention Cultivator.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.
When writing advertisers mention Cultivator.

LARGE OR SMALL COWS.

It is hard to make the average farmer think that size in dairy cattle is not a criterion of ability and profit. In a great many matters we judge by what we like and not by what we know. Prof. T. L. Haecker, of the Minnesota dairy school, takes up this question in a very practical way by comparing two cows as they stood at the experiment station. He says:

"The large cow is the deepest milker in the herd, while the small cow never gives a large mess even when fresh. The large cow invariably decreases rapidly in her flow, while the small one is a persistent milker, generally giving as much in the spring as when she went into winter quarters. The large cow, during the past three years has averaged 295 pounds of butter per year, while the small one gave 341 pounds. The large one yields 3 per cent milk, while the small one gives 5.5 per cent milk."

Now, in the above case Prof. Haecker judges by what he knows. He takes actual facts as a basis for his judgment. But how is a farmer going to take facts as a guide when he never made a test of his cows or kept any sort of record and has no basis of judging a cow except in a loose general way. He has always liked large, meaty cows and there is the end of it with him.

Many a time have we seen herds of big cows that were not returning enough money to more than barely pay for their keeping, but the owners liked just that kind of cows, and that was all there was to it. Any attempt to get them to look deeper and accept a different basis for their judgment and management was resented in most cases.

With a great host of dairy farmers, all progress toward better understanding of the true principles that govern in their business is like pulling a cat by her tail to her dish of milk. She will do what she can to prevent progress. And even though she eat the milk after she gets to the dish, she never thinks well of the man who got her there.

It takes a long time and much thinking and practice to get so we are governed by our reason, and not by our likes and dislikes and the cow question is no exception.

DAIRYING IN CALIFORNIA.

Northern California farmers ought to read the article on Dairying in California contributed by Charles D. Pierce to the current issue of the Live Stock and Dairy Journal. Mr. Pierce is president of the Pierce Land and Stock Company, and his object is to promote an extension of the dairy industry throughout the State.

Mr. Pierce is well qualified to write on such a subject. His own herd of cattle has been singularly successful and is proof of what can be done along this line in Northern California when enterprise is combined with intelligence and a thorough understanding of the subject. Mr. Pierce now has 400 head of Holsteins, in his opinion the best possible breed for dairy purposes. Sixty of his cows have produced an average of over twenty pounds of butter each in a seven-day official test. During the course of one month the milking herd of 145 cows produced 150,000 pounds of milk, or an average of 1035 pounds each. With such a record as this Mr. Pierce needs no excuse for his enthusiasm nor for the energy with which he would persuade California farmers to imitate his profitable example.

Dairying is a great industrial possibility for the State, and it ought not to be neglected merely because other industries have a priority in point of time. Every factor that can conduce to success is present in California. The climate is ideal for the purpose, inasmuch as stock can be turned out all the year round, while the soil produces luxurious grasses and feeds of many kinds. Mr. Pierce's prediction is therefore a safe one, that California will become one of the great dairying States of the Union. There is, indeed, no hindrance to this consummation except an unwillingness on the part of farmers to change their manner of working and to adapt themselves to new opportunities.—Sacramento Union.

The heifer is quite apt to form her milk habits after birth of her first calf. If at the end of the second year's milking, the heifer is failing to do profitable work, she should be discarded.

Get acquainted with your cows. By this we mean find out how much they give, how much butter or cheese they make and how many of them in the herd are paying for their board.

With milk as a starter, pigs soon learn to eat slops made of mill feed.

A little oil of pennyroyal or oil of cloves will drive fleas away from the stable.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

WELL DRILLING MACHINERY
Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.
Kelly & Taneyhill Co
Chestnut St., Waterloo, Iowa
When writing advertisers mention Cultivator.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.
When writing advertisers mention Cultivator.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

MANGE.

Ed. of Cultivator:—I have a mare troubled with an intense itching about the head, neck, fore shoulders, tail and mane. Small lumps come out on the skin about the size of small beans and peas.—Subscriber, Santa Ana.

Your mare has mange. Wash her thoroughly with soapsuds and brush, then apply the following lotion: Kerso Dip, four ounces to one-half gallon of water; rub in well and repeat in three days.

DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES
Simplest Press Made.

Lifting jack goes with each Press. Powerful—puts full weight into box car. Tracks with a wagon; 2 horses draw it on common roads.
Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

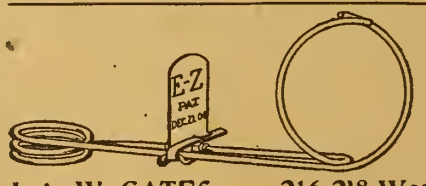
Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.
When writing advertisers mention Cultivator.

WE GUARANTEE THE
White Lily Washing Machine
To Wash Cleaner, to Run Easier, and to Wash in ONE-HALF the TIME it takes with any other Washer. If your dealer has not got the WHITE LILY write us and we will see that you get one on THIRTY DAYS' FREE TRIAL.
White Lily Washer Co.
1539 Rockingham Rd. DAVENPORT, IOWA
When writing advertisers mention Cultivator.



Ask Your Dealer for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

SUGAR-BEET-PULP
A Cooked "Cow-Breakfast-Food"
TO FARMERS, STOCKMEN, DAIRYMEN:
SUGAR-BEET-PULP, 60c per ton f. o. b. cars or wagon, fresh from factory. Professor Carlyle has demonstrated that 3¾ pounds of sugar-beet-pulp equal 1 pound of alfalfa hay in feeding value; and that 3 pounds of hay equal 1 pound of corn in feeding value. Hundreds of satisfied users have proved it to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.
Los Alamitos Sugar Company Los Alamitos, Cal.
When writing advertisers mention Cultivator.

When writing advertisers mention Cultivator.

Have You Seen the Moline Cars?

The most beautiful family cars on the market.
Double opposed engine, side door entrance, $1,050.
Four cylinder, side door entrance touring car, $1,700.
Call and see them.
Wm. Gregory
602 N. Main St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

THE DRY FOOD HOPPER.

Everything that has life in it has to have food of some kind. No one will deny this assertion, and I think it may prove helpful as well as interesting to our readers to take under consideration some of the different feeds and different ways of feeding poultry.

You all know by this time the three conditions of egg production: Comfort, exercise and proper food. Today we will examine one of the different methods of administering the proper food.

Dry feeding, or wet, which? Now as a preliminary let me urge upon our readers not to make any change in their way of feeding, if they are successful not only in raising thrifty chicks to maturity, but also in having a healthful flock of good paying, laying hens. Changes, sudden changes, in the food are disastrous to the egg basket, so make changes gradually and cautiously.

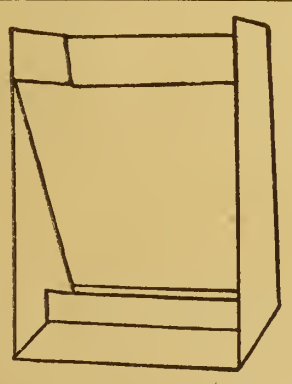
Some years ago there appeared for a year or more an advertisement in some of the California poultry journals of the Sampson method of feeding, which Mr. Sampson offered for sale at $1.00 for the prescription, promising that it would be a preventive of roup or any illness and would induce hens to lay all winter. A dollar was a dollar in those days to me, and just as I was wondering if his prescription really amounted to anything, I received a letter from a friend telling me she had been recommended to feed her hens a dry mixture, which she said was a secret, and she wanted to know what I though of it. I asked in reply if it was the Sampson method and she said it was, and she thought it pretty good. The plan was to feed this in the morning, giving the hens in their troughs what they would eat up during the day.

I decided to try it myself on some of my pens, because daughter and I found the carrying and lifting of the heavy buckets of mash for some hundreds of hens quite arduous work.

The mixture (not mash, for there was no water in it) that I fed was the ingredients of my mash—two parts bran, one part rolled breakfast oats, one part feed meal (corn meal) and half a part of meat meal (the meat meal was omitted on the days when I fed green ground bone). I put this into the troughs of a morning and the hens rushed for it, but as it was dry they could only eat about three mouthfuls without water, so they ate a little food and then took a drink. They did not seem to like this plan at first and soon jumped into the scratching pen to hunt for stray grains, but whenever hunger pressed they would return to the dry trough. They drank a great deal more water than formerly. The worst of this way of feeding was that the fowls scattered a good deal of the dry stuff hunting for something better at the bottom or picking out the oats. I had not then thought of making hoppers for the dry feed. I found this method greatly lessened the labor and the hens did well. In fact the only thing unsatisfactory was that I could not utilize table scraps, small potatoes, and a ton of beans which I had bought very cheap. Cooked vegetables and such things went into the mash, but could not be put into the dry mixture. One thing greatly in favor of the dry mixture was that the fowls did not, or could not over eat, and yet had plenty, they never went hungry, never ate too quickly, never had indigestion and were vigorous and healthy.

Some little time after this experiment of mine, which lasted over a year, I heard of Dr. Nottage and his plan. He was called "the man who feeds his hens twice a week." Later I read of Mr. Parks, whose Rhode Island Reds are famous, and who tells how successful he is in a most interesting article on this subject, and last, but not least, I read Dr. Sanborn's description of his method of hopper feeding and its results. It is always interesting, and frequently very helpful to hear of the achievements of others, especially when it depicts the actual doing of things by one who has made a success of the undertaking. I intend therefore, giving a synopsis and extracts from the articles of these three noted experts on the subject of dry feeding. Of course these articles are too lengthy to be given in one week's Cultivator; they will be continued for at least two weeks.

Meanwhile I give a rough plan of a dry hopper, which I myself have just made, for I am using the dry hopper feeding plan for my thirty-eight young



stock. I have not lost one chick from the time they were hatched. I fed them the dry chick feed from the first, following this with dry wheat, kaffir corn and rolled oats, feeding in addition all the green vegetables or lawn clippings I could get and failing that, the alfalfa meal.

Now I am feeding, in either the hopper or a deep old soup kettle I have, the following mixture dry: Two measures bran, two measures alfalfa meal, one measure corn meal, half a measure beef scraps, half a measure rolled oats. This I fill every morning. I give them lettuce, melon rinds, scraps of vegetables, and at night a feed of Kaffir corn and wheat, fill their drinking vessel twice or three times a day. I have not had one sick or dumpy or ailing in any way since they were hatched. I find the way to prevent their wasting or scattering the dry feed is to have it in as deep a receptacle as possible, so I have made the feed

BLUE ANDALUSIANS, Eggs after Sept. 1s
MRS. J. S. DUFF, 3145 S. Hoover St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

White Plymouth Rock Poultry Ranch
Write us your wants.
J. T. DAVIS, Prop. POMONA, CAL.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at 1903 Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 Los Angeles, Cal.
RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. FILCHER, Commissioner.
Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

trough of the hopper three inches deep, the kettle is twelve inches deep, and I fill up to three inches from the top. A tin bucket can be nailed against the house so that it cannot be upset, or a hopper can be made out of a five gallon oil can, and either wired or nailed against a post to keep the fowls from tipping it over.

The hopper I made from a Bishop's cracker box in about half an hour.

(Continued in our next.)

* * *

EDITOR'S QUESTION BOX.

Sick Turkeys.—(Mrs. W. B. R.) Among my bunch of about one hundred turks I have some 15 toms (young ones) weighing in the neighborhood of 12 to 15 pounds, which are beginning to be affected with a sore head. The red part of the head swells up and scabs over. Inside of the mouth is all swelled up and whitish color. An early answer telling what ails them and what to do for it will be very gratefully received.

Answer.—Your turkeys have roup and possibly canker. The best plan now is to rub their heads with carbolic salve or carbolated vaseline, and paint the white spots in the mouth, if they are canker, with a solution of sulphocarbolate of zinc, two grains to the ounce of water. If it is roup add two grains of carbolic acid and two grains of alum and twice a day swab or paint the mouth. Give at the same time a pill of quinine every other day, and if in two days they are not well spray the mouth and throat out with peroxide of hydrogen. Keep the sick away from the others, as it is very infectious.

* * *

How to Begin.—(Mrs. J. L.) Since we take the Cultivator I have been very much interested in your articles about poultry and should like to ask your advice about several things. We are trying to make a start in the poultry business, but do not know which is the best way. What do you think best: hatch your own chicks, buy them, or buy young pullets or two-year old hens? Do you think we can hatch now or is it better to wait till spring? We have about 100 pullets three months old. I am feeding them in the morning a mash consisting of equal parts ground barley, corn meal and bran, and for every ten parts of these ingredients one part of meat scraps and bone meal. At night I give them grain (wheat and cracked corn). Do you think I feed too much corn? Some people tell us it is too heating. Then, how much is a good ration for 100 pullets? Sometimes I think I feed them too much.

Answer.—If you had mentioned what breed you intend keeping I could answer your letter more satisfactorily, as some breeds mature more quickly than others and require different handling. As to which is the best way to commence, it very much depends upon your pocketbook, also on what lines you intend breeding, whether for only eggs for market, or for fowls for market, or fancy stock for exhibition. If you want eggs for market this fall and winter, buy pullets hatched in March or April. Set aside in one pen by themselves eight or ten of the best of these with a good vigorous male and keep their March and April eggs for hatching. Or buy eight or ten young hens a year old that are through their moult and keep those for your breeding stock, commencing to hatch in October and hatching every month till May.

You can make good money by buying pullets now, but be sure you get them from healthy stock, and that they are healthy themselves, and if you are a novice in the business go slowly. You can learn the business much better and with less cost to yourself with a few fowls, and then, if you succeed, gradually increase your flock.

I think you are feeding too much corn meal, in addition to the evening meal of corn and wheat. Even for Leghorns you had better feed two parts of bran and one part each of corn meal and ground barley with one tenth meat scraps and bone meal, and be sure to give plenty of green feed. Give the young pullets all they will eat. You cannot feed young Leghorns too much, and as you write from Petaluma I suppose you have Leghorns.

* * *

Australian Salt Bush, Etc.—A Subscriber): Could you kindly inform me through the poultry department of the Cultivator where I can get Black Orpingtons? Do not refer me to the Orpington ranch at Los Angeles. 2nd. What is the best method of obtaining charcoal for chickens? 3rd. Would an Australian salt bush patch make good runs for chickens in pen? And would it stay green through the summer without irrigation and take the place of alfalfa?

Answer.—I do not remember the name at present of a Black Orpington breeder.

2. I buy common willow charcoal at the feed yard, pound it up and then grind it in my gristmill. You can purchase it at any supply house already granulated.

3. Yes. Australian salt bush makes a good run for chickens after it is once started. It remains green for a long time; it has small seeds at the branching of the leaves; the hens like the salty taste of these seeds and of the leaves, but it does not quite take the place of alfalfa.

* * *

Turkeys.—(W. F. K.) I wish to know if young turkeys are being hurt by eating prunes, and what effect would peaches have on them if they eat all they want?

Answer.—Prunes do not seem to hurt young turkeys as much as peaches. Peaches for quite young turkeys, if eaten too liberally will clog the stomach and give indigestion and diarrhoea. These fruits do not hurt the old turkeys.

* * *

Turkeys.—(H. W. R.): I wrote you some days since about some of my turkeys having sore heads, and now I have more trouble. Some of my half grown turkeys have what seems to be enlarged crops. There is a large bunch hanging down from where the crop is located, about the size of or larger

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT **Calfalfa Meal** ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings, or Oil Cake Meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application

MILLS West & Nielsen Aves

California Stock Food Co.

FRESNO, CAL.

OFFICE 121 Forsyth Bldg.

When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

than a large orange, and hangs so low the turks feet strike it when walking. When I hold turks up by heels water and grain the turk has eaten runs out of mouth and bunch gets smaller. Can feel grain in bunch. Kindly tell me what ails them and what to do.

Answer.—There is something wrong in your management or feeding of the turkeys. The symptoms denote a lack of grit. Your turkeys are suffering from indigestion and sour or impacted crop. Give charcoal and grit to all. And for those affected give a tablespoon of castor oil and knead the crop gently. Feed soft food, bread and milk, with a little cayenne pepper, and when they get better give a pill of quinine and turn them out on free range.

* * *

Spinal Meningitis.—(A subscriber.) Will some reader of the Cultivator tell me the cause and remedy for this disease in my chickens? About two months ago I noticed one of my Black Minorcas acted as if she has a crooked neck. We caught her and examined her for some cause, but could find none, but she steadily grew worse, that is, she drew her head more to one side, would eat and seemed well in that respect, but got so bad that at last it drew her head so that she could not stand and finally would lie on the back of her head, and when we saw her grow worse we killed her. I have another beginning the same way. Her head is drawing to one side and yet she seems perfectly well, scratches and eats as heartily as any of my flock.

Answer.—Your Minorca has spinal meningitis. You should thave examined her insides thoroughly after death to discover the cause. It is often caused by cold, by a sunstroke, by indigestion, some say that eating maggotty meat will cause it, a blow on the head, or an abcess in the ear brought on by a draught of air. Try giving the hen a little hyposulphite of soda in water and a pill of assafoetida.

SQUABS FOR PROFITS.

At the present time there are more people going into the squab business than ever before. There is more demand in the market for good squabs now than a year ago, and the supply does not nearly fill the demand. Squabs were higher last winter in the Boston market than ever before. The principal thing to make sure of in the squab business is to have your birds thoroughly mated. This can only be done by careful study. It is almost impossible to control or keep track of every mated pair if they are kept in large flocks. For this reason we advocate lofts of a proper size for about twenty to fifty pairs. The labor will be increased but the returns will more than pay for the extra labor.

The object of every squab breeder is to get the greatest number of squabs per year from every old pair and to do this the birds must be given every opportunity. The proper nesting places are most important. There are certain kinds of nests that pigeons like, and others that they do not; when you read in a book that nests should be all one foot square like empty egg boxes turned on one side and stacked in rows, you can make up your mind that the party who wrote the book has not had as much experience as he might have had. A pair of pigeons should have a nesting place at least three feet long by one foot high and one foot wide. This will allow them a comfortable little home with a nest pan in each end and a space to do their courting in the center. If some good kind of fronts are placed over their home they like it so much the better. If breeders who are now using the egg-box style will throw them out and build new nests after this style, they will learn the difference in short order. If you are using wooden nests throw them out also and buy some good earthen ones, then you will have begun on the right road.

BRAN AS POULTRY FEED.

Bran enters largely into the feeding of some poultry men. Their method of using it is to put it in a box or long trough where the birds, both old and young, can get at it and pick at will. Of course not much will be eaten at one time, and this is what is desired. We have found that chicks especially do not like to make bran their sole diet, and too much of it leads to digestion troubles. One of the best ways to use ground foods, is making a mash of them for feeding either at morning or night. Both plans can be practiced at the same time. The effect of bran is just the opposite to that of whole corn. The corn when fed for a long time alone produces indigestion, while the bran has a loosening effect. Those that are opposed to the use of bran have tried it in too large quantities and have made it a large part of the whole feed. In some cases the poor results with bran have come from the fact that the bran contained a great deal of ground weed seeds, such as corn cockle.

The best science—extracting sunshine from a cloudy way.

NATURAL HEN
Incubators and Brooders

Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

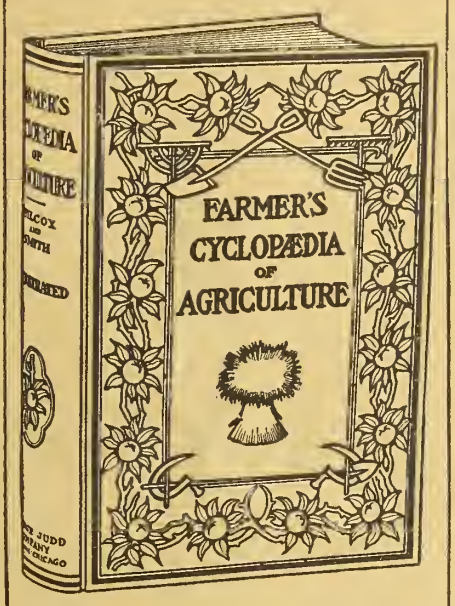
ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

Farmer's Cyclopedia of Agriculture



A Compendium of Agricultural Science and Practice on Farm, Orchard and Garden Crops, the Feeding and Diseases of Farm Animals, Dairy Farming, and Poultry in the United States and Canada

Authors: EARLEY VERNON WILCOX, Ph. D.
CLARENCE BEAMAN SMITH, M. S.
Assistant Editors in the Office of Experiment Stations, United States Dept. of Agriculture

The World Moves

and whoever would not be left behind must lay hold on every means that enables him to move with it. As a basis of one's efforts nothing is more essential than the possession of a good work of reference

Adapted to the Conditions Peculiar to California and Adjoining States

The Farmer's Cyclopedia embodies in its many articles, most of the results of years of painstaking work at the California and neighboring State Agricultural Experiment Stations. It is thus, in effect, both a digest of local and state experience, and a compendium of general knowledge, all of which will prove of indispensable helpfulness to everyone in this section.

The Last Twenty Years of Progress

have measured more changes and recorded more advances in every branch of agricultural science than have been achieved during the hundred years preceding. During all these years no reference book adequately covering the subject has been issued.

The plan of this work is most comprehensive. Every article has received the most careful preparation at the hands of the authors, who have enlisted the co-operation of the highest authorities in the various departments. The greatest educators of the world, representing every branch of agriculture, here unite in one immense faculty to present directly and plainly the pertinent facts of their specialties. Every statement is authoritative and absolutely reliable.

If you wish to know about field crops, garden vegetables, fruits, nuts and other economic plants, farm animals, dairy farming, poultry, also manures, fertilizers, principles of feeding, soils, drainage, irrigation, spraying, veterinary medicines, etc, etc, it is here. Everything concerning farm matters is treated with great thoroughness, though without undue fullness. We claim for it the unique distinction of presenting for the first time, in a carefully arranged and perfectly accessible form, an accurate summary of every subject of interest to farmers, etc.

Over 6000 Topics Indexed
A Wealth of Illustrations

An important part of this work is its very complete and elaborate index, with cross-references under both scientific and common names, so that any information wanted can be found at once. There are between 6000 and 7000 topics covered in these references, making the most perfect index to agriculture ever attempted. It contains 700 royal octavo pages (9½ x 7 inches) and nearly 500 superb half-tone and other original illustrations. Type, paper, printing and binding are all in the highest style of the bookmaker's art, worthy alike of the well-qualified authors, the enterprising publishers, and the industry of agriculture.

PRICE IN HALF MOROCCO, $4.50

To Cultivator readers we make this proposition:—Fill out and sign the enclosed coupon and mail to this office and the book will be delivered postpaid at once and your Cultivator subscription advanced one year.

CUT OUT AND MAIL THIS COUPON AT ONCE

CULTIVATOR PUB. CO., LOS ANGELES, CAL.
Please enter my name for one year (NEW or RENEWAL) and send me the Farmer's Cyclopedia of Agriculture, half morocco. For both together the price to be $5.00, which I agree to pay as follows: $1.00 on the first day of next month and $1.00 on the first of each of the succeeding four months. Until the $5 is paid in full title to the Cyclopedia to be vested in you.

NAME.....

P. O.....STATE

—Burbank's Australian Everbearing—
Crimson Winter Rhubarb

Crimson Winter Rhubarb, the latest and best of Luther Burbank's introductions, is a delicious fruit and vegetable full of goodness and profit. It merits the attention of planters everywhere, as it grows luxuriantly under varied conditions. No other crop brings such profitable returns.

We have the most perfect stock in all sizes of plants, from extra large roots to medium and small sizes for acreage planting. Will fill your order for one plant as cheerfully as for a thousand. Write for leaflet or any information.

100,000 Plants Now Ready for Market

Crimson Winter starts to grow vigorously by October and produces stalks continually until after common varieties make their first appearance, some six months later. In our rainless California climate it reluctantly takes a rest during midsummer, but if kept moist produces stalks abundantly at all seasons; it is in fact absolutely perpetual. The stalks are of medium size, averaging twelve to eighteen inches in length, about one inch in diameter, of a beautiful crimson color; when cooked, turning to a clear crimson.

Rhubarb is as easily and cheaply gathered as apricots or peaches; hence at same rate per ton is a much better paying proposition, even the first year, than any deciduous orchard when in its prime. It delights in any good vegetable soil (if not too wet) that produces good crops of onions, sweet potatoes, melons, etc. Excessive heat seems to have no ill effects. The plants we now offer are best size for successful planting and will produce a good crop of marketable stems within three months.

While we make a specialty of Crimson Winter Rhubarb, we also grow the following excellent varieties: Strawberry (or Lorenzo), Linneaus, Myatt's Victoria, Monarch.

Medium size plants, ***Crimson Winter,*** 25c each, $1.50 per dozen, $7.50 per 100, $50 per 1000.

Strawberry (or Lorenzo), Linneaus, Myatt's Victoria and Monarch, medium size, 15c each, $1.00 per dozen, $4.00 per 100, $30 per 1000.

We can supply a limited quantity extra large plants; prices on application. Postage stamps accepted for amounts less than $1.00. Special price on large orders and to the trade.

Both Phones **Wagner's Nurseries** ***PASADENA CAL.***

RESIDENCE AND NURSERIES—On southwest corner Villa Street and Eugene Ave. Take East Colorado St. cars to Hill, north to Villa, east two blocks. SALE YARD—During planting season, 53 West Colorado St.

Queries and Suggestions

LOGANBERRY CANES.

Editor Cultivator: In a recent number of your paper I noticed an article on the care of the Loganberry, which recommended the cutting of all the canes close to the ground as soon as the fruiting season was over, and mulching with about four inches stable manure. My canes are still blossoming and have green and ripe berries. I would like to know how late in the season it would do to pursue that method and have ample time to grow good canes for the next year's crop.—R. A. C., Long Beach.

In Wickson's "Vegetables," it says that Loganberry care and culture is the same as for dewberries. One grower quoted states that immediately after the first rain (usually in October), he cuts the canes down to 16 inches. We are certain that you may safely cut your canes as late as the first rain, but they should not be irrigated in the meantime.

Regarding the different treatment of berry bushes, Mr. Gray, originator of the Gardena dewberry, gave us the following account of a novel experience: "My bushes had scale very bad. I had been cutting them off so as to leave short canes, and of course the scale remained. By accident some berry canes had been cut off below the ground and I noticed that the canes arising were free from scale. Now I plow a furrow each side of every row so that the dirt will bury the canes several inches. They are left in this condition until the scale below the ground are dead. Then the canes are cut off below the soil. The winter rains and subsequent cultivation removes the earth from the row, and thus I keep down the scale." It really seems as if no certain rule obtains and cane may be cut to any height and at any time before the winter rains induce a new growth.

CYPRESS HEDGE.

Editor Cultivator: I should like to know through your valuable paper what to do for a cypress hedge when it begins to die out in spots. Mine is quite a novel hedge, being trained in letters to advertise my business. Yet, in spite of all I can do, it seems to grow brown, finally dying entirely.—S. H. K., Los Angeles.

This "dying out in spots" with our cypress hedges has always been a puzzle to all interested. In the case of two hedges of 15 and 23 years growth (which the writer examined) the roots were in such a close, tangled mass that the whole hedge seemed like one plant. The conclusion reached was that some of the plants were choked to death. These hedges, when supplied with water, grow very vigorously, and in the unnatural condition in which they are placed make an unusual and abnormal amount of root growth, with the result of the "survival of the fittest" only. Hedges should be planted thickly and when the gaps between the plants are well closed, every other plant should be removed; the cypress can be made to cover any distance in lateral growth, even to 30 feet. Your only recourse is to replant.

WINTER CABBAGE.

Editor Cultivator: I intend to plant eight acres of Winningstadt cabbage for winter market in the East, and I want to have them matured by February 15th to March 15th. Will you kindly let me know what month to set out the plants. I am on low damp land, with lots of water.—Geo. Cordell, Long Beach.

In the locality you are in the seed should be sown by September 20th at latest. Use one-quarter pound of seed to the acre. The Improved Quedlinburg strain of Early Winningstadt has given general satisfaction. Last year those who planted later than date above mentioned thought they made a mistake in not planting earler and Mr. Musser, of the firm of Johnson & Musser, recommends not later than September 20th for planting.

CLARIFYING VINEGAR.

Subscriber at Healdsburg who is manufacturing cider vinegar in considerable quantities, has trouble in clarifying it, and wishes help in that direction.

The process of making vinegar for home use, or even for market, is quite simple, the first requisite being perfectly clean vats or barrels. After the juices have been obtained and emptied into the receptacles, dissolve a yeast cake in a small amount of liquid, pour into the mass and thoroughly stir with a clean stick. A strong fermentation will soon take place, which should be allowed to continue undistrubed until it ceases from its own accord. Then procure some "mother of vinegar" and float it upon the surface of the liquid. The rapidity of the transformation to vinegar will depend upon the temperature at which the material is kept. There should be no trouble with its clarifying providing no foreign or adulterant substances are used. We cannot understand why cider vinegar should not be a clarified product.

SPRAY FOR WALNUT BLIGHT.

Editor of Cultivator:—Kindly give me spray for blight of walnut trees.—L. T. Chappell, Walnut Grove, San Jose.

It must be confessed that as yet there is no satisfactory remedy for the blight. The one most usually recommended is the Bordeaux mixture, which has often been given in the columns of the Cultivator. The spreading of a liberal coating of air-slaked lime on the ground underneath the trees is claimed by some to prevent the spread of the spores on next year's growth. The spraying when done with the Bordeaux mixture is usually in the dormant season, or very soon after the leaves start. We believe it would be of slight value at this season of the year.

TOMATO WILT.

Editor of Cultivator:—Noticing in the Cultivator of the 11th an article on tomato wilt, I take the liberty of giving my experience, which may possibly be of interest.

About six weeks ago I had a few nice tomato plants, at that time of good size. I noticed one day that two of them were nearly dead, and others badly wilted so that about six or eight inches of the ends of the branches were drooping. I pruned off the wilted ends, and thinking they would be benefited by loosening the earth, I began to spade, and turned up a great many large grubs. I turned the chickens loose on these and continued the spading, thoroughly cleaning the ground. One plant was about dead and others far gone. But the better ones of them immediately recovered, and today I have thrifty bearing vines and a nice lot of fruit.—J. W. Anderson, San Dimas.

This apparently accomplished good results in the above case, but if Mr. Anderson gets a good straight case of tomato wilt, it will take more scratching than the hens can do to get rid of it.

HOSE AND PIPE FOR IRRIGATION.

Editor of Cultivator:—Will you inform me through your valuable paper where I can obtain information as to hose and pipe for irrigating alfalfa? What size of hose, the length of joints, kind of couplings, and approximate life of the hose. Also can you give me information about building concrete pipe in the trench?—Fred W. Jones, Santa Paula.

The best information regarding canvas hose can be secured by writing W. H. Hoegee & Co., who furnish it ready for use, including couplers and attachments. Regarding movable iron pipe, write the Tallerday M'f'g Co., Doldgeville, California. Their pipe is put up in various sizes, from four inches up, and in ten-foot lengths. Of course the governing factor in the size of pipe or hose will be the amount of water to be conducted. The manufacturing of concrete pipe in the trench is usually accomplished by the use of special machines which we believe are patented. If, however, you mean small pipe, two or three inches inside diameter, these are made by using smooth two or three inch iron pipe for the inner mold. The trench is then dug rather narrow and it makes the outer mold. A layer of the concrete made of five or six parts of fine gravel and sand to one part of Portland cement is packed in the bottom of the trench two or three inches deep, and say five or six inches long. The smooth piece of iron pipe is then laid in the center of this foundation and around it and above it is thoroughly tamped the concrete. It will be well while this is being done to give an occasional slight turn to the pipe to prevent its becoming so thoroughly embedded that it cannot be removed. When a few feet of the pipe is covered it may gradually be withdrawn, a foot or at the most a few feet at a time. Thus continuing to the end of the ditch.

TO CLEAN PEANUTS.

Editor Cultivator:—Kindly inform me how to bleach peanuts for the market. I find that while a dark shell does not hurt the flavor it hurts the selling value.—F. S. J., Custer, Okla.

Where peanuts are grown on a light, sandy soil, the cleaning is given by placing in a simply constructed home-made cleaner. It consists of a cylindrical or barrel-shaped box three or four feet long and two feet in diameter. Slats are nailed to two circular pieces of board and spaced so as not to allow the peanuts to pass through the inter-slat spaces. An axis runs through the box and transverse pieces are fastened to the ends of this axis as to an old style well windlass. A door is made into one side of this box for the admission of the peanuts, and the windlass or crank in being turned rolls and rubs the nuts together, thus freeing them from dirt that may adhere and to some extent polishing the pods. In peanut sections there are factories where the process of cleaning and polishing is done by improved machinery. Of course large plantations have machinery made for this purpose, but for the small planter the home-made machine has proved satisfactory. The discoloration that comes to peanuts from being planted on blacker, heavier soil, may possibly be removed by a liquid dip, but of this we are uninformed, and ask our subscribers who may enlighten the Oklahoma enquirer to send information on this subject.

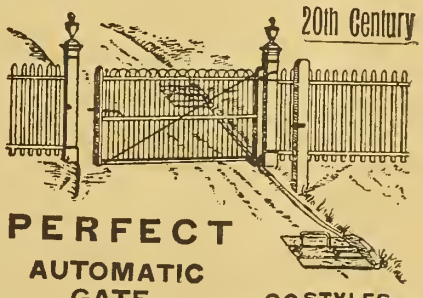
"Senator," he asked, "have you really any fixed convictions?"

"Not just now," he replied, "but I expect to have one or two shortly after the beginning of the next session."—Chicago Record-Herald.

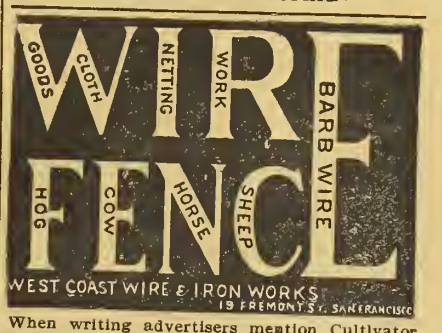
RANCH FOR SALE
13 acres 2 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R D. 1 RIVERA, CAL.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 **Pasadena, Cal.**
When writing advertisers mention Cultivator.

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.
When writing advertisers mention Cultivator.



PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. ***Works 365 days each year. NO OILING***—ten minutes each year and 10 to 20 cents expense—***no more.***
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California.



When writing advertisers mention Cultivator.

Half Rates
EAST
SALT LAKE ROUTE
One Fare Round Trip to New York, Chicago, St. Louis, Memphis, Kansas City, Omaha and all Eastern Points.
CHOICE OF ROUTES RETURNING
PORTLAND EXPOSITION—
$60.00 Round Trip, limit 90 days. Going via Salt Lake City and the famous Columbia River, returning via Shasta Route and San Francisco. Stopovers allowed.
$40.00 Round Trip, limit 21 days. Going and returning via Salt Lake City and Columbia River.
Personally Conducted Tours to Yellowstone Park, Portland Exposition and Alaska. Information gladly given at City Ticket Office, 250 South Spring Street, Los Angeles. Both Phones 352, First Street Station, Home 490, Main 4095.
When writing advertisers mention Cultivator.

SHADOW-LAND.

Far from the world that we live in today
Shadow-land lies;
None know how far it is, none know the way,
What are its boundaries no one can say,
Only sunrise;
No one in life has set foot on that shore,
Formed from the wreck of the sad nevermore.

Memory governs this shadowy land,
Reigning supreme;
Ofttimes there come at her word of command
Forms we have known, from the far-distant strand,
Faint as a dream;
Forms of those dear in the days which have flown,
Forms of beloved ones in life's morning known.

With them they bring long-lost scenes of the past
Back to our view;
Pictures of friendships not destined to last,
Loves that grew weak 'neath adversities' blast,
Painted anew;
Ridges and ripples in Time's shifting sand,
Hidden till now in the far Shadow-land.

A Shopping Day.

We met at a hotel and I thought her one of the most charming women I had ever seen.

Refined and almost hyper-sensitive, she struck me at once as being a woman of breeding and distinction. Yet on the few occasions, when, as our acquaintance ripened, I visited her at her smart and elegantly appointed flat, I felt an instinctive aversion to the friends and acquaintances I met there.

Of her people she seldom spoke—her parents were dead, she told me, and her husband was abroad, but might be home again at any time.

She was always exquisitely dressed in the latest fashion, and money seemed abundant with her. She was an adept shopper, quick at knowing what she wanted and quicker still at seeing it and I was very glad when she offered to pilot me through the difficult mazes of the winter sales.

I am not possessed of a large dress allowance, and my wardrobe for the coming season depends somewhat on my successful purchases in sale times. Mrs. Vereker was just the guide to help me through. She possessed such perfect taste that I felt quite safe in her hands.

We sat one evening arranging what we were to buy.

"It is far better to go now when the first rush of the sales is over," said Mrs. Vereker. "I went the first three days myself, but the crowd was awful, and there are still plenty of things to be had."

"Did you pick up many things?" I asked.

She laid down the list she was making and stared at me in dumb amazement. Then her face cleared.

"Yes—no, not very much. Let me see; I bought this tea coat and some hats and my new gray coat—that is all, I believe."

She continued the list, and at last I rose with a sigh of deep relief.

"It's so good of you. We'll go to——first and then on to Bond street"—I glanced at the list—"and get the fur at ———; they can always be relied on to really reduce things. I'll call for you at 9 tomorrow, and we'll get Norman to lend me his motor."

"Yes, do," she said. "I love a motor—we can go to double the number of shops and spend the whole morning looking round until we find exactly what we want."

The next morning I called for Mrs. Vereker and found her waiting.

"Won't you find that coat too hot," I asked as we reached the first of our shops and I slipped off my own heavy motoring coat.

"No, I love it," she replied. "I am never too warm"—and drawing her voluminous skirts across a pavement luckily clean, she swept into the shop with her usual graceful, languid air.

I bought my coat and selected some lace, and went on to——, where I chose a few modest and one or two more expensive blouses, then we went on to a third and last shop. While I was choosing some ribbon in the multi-colored ribbon department, Mrs. Vereker said to me:

"I am just going to the handkerchiefs; I will join you in the fur department—you are going there?"

"Yes; I shan't be long."

"Nor I," she answered; "I am very tired." I had finished my purchases when she came back.

"Are you ready? I am feeling so faint. Do you mind hurrying?"

"I'm just ready," I said, "this very moment," and I put my hand in my muff to get my purse. There was no purse there, and I gave a cry of dismay. "Mrs. Vereker!—my purse!—it's gone!—and I had £25 in it. I had it a moment ago—I must have put it down in the ribbon department."

"Let me pay," she began—but I interrupted her.

"Nonsense, it can't be really gone"—and I almost ran to the ribbon department.

I found the shopwalker and the assistant—but no one had seen it, and baskets of ribbons were hastily searched without result.

"It is very dangerous to lay your purse down in a crowd," said the shopwalker, who knew me well; "it's only a wonder, madam, you didn't lose your muff as well."

I went back disconsolate to the fur department.

"I am so awfully sorry to have kept you," I began, trying not to show my vexation more than I could help. "Are you better?"

She nodded and rose with haste. "Yes, but let's go, if you don't mind. You can come back again and make inquiries. It doesn't matter about your purse. I have heaps of things and bits of fur I do not want.

"Nonsense," I said, "as though I should take yours."

"But, my dear child, I have so many, and surely a married woman can help a girl; besides, I dare say the purse will turn up.

"Pardon me, madam."

A grave looking man in a frock coat slid past me and laid his hand firmly on Mrs. Vereker's arm at the moment she was stepping into my motor.

"What is it? This lady has left all information about her purse." She moved her arm haughtily.

The man's face grew graver.

"Perhaps you will kindly come back with me. It's you we want, if you please, madam."

There was a faint sneer on the word "madam," and Mrs. Vereker's face blanched.

"What do you mean?" she stammered. "How dare you? Cannot you see I am ill and wish to go home at once?"

I sprang to her side. "Never mind about the wretched purse," I said to the man. "This lady is not well; let her go home and I will come back about the purse."

The man took no notice of me, but bending to Mrs. Vereker said something that made her step suddenly back and stand by his side. Then to my utter amazement, shaking obviously from head to foot, and without even looking at me, she turned into the shop and I followed in bewildered dismay.

It was soon over. A few minutes in a private room and two female searchers had taken the heavy coat, far heavier now with the lace and furs and flowers and blouses that were marvelously fastened in its ample folds. Under her cloak and attached to her waist by firm hooks hung several furs and many pieces of costly lace.

Mrs. Vereker, white as death, showed no sign of what she must be feeling, but looked in front of her with a dazed, set face, while I slipped outside to the waiting man. He was talking to another shopwalker, who, luckily knew me well.

"What is it?" I asked. "Is she a thief?"—a silly question he answered at once.

"One of the worst shoplifters in London," he said laconically, "and yet we've never been able to catch her. Her husband is doing six months now for the very same thing. She knew you were known here, madam, and brought you to shield her."

"But how did you find her out today?" I asked, aghast, "and what did you see her take?"

"Something that belongs to you," he said, as he gravely handed me my purse.—R Neish in London Daily Mail.

Do not think yourself educated if you cannot keep your temper, if you have not learned to be kind and to bear patiently with the faults of others. It is a good thing to be able to construe a Latin sentence or work a difficult problem in algebra, but how trifling such things are compared with training in gentleness and courtesy and manhood! Unless the heart is educated, as well as the head, your education is only begun.

Love and a cough cannot be concealed.

A POSY FOR THE BREAKFAST TABLE.

If you have the least bit of a garden or even a few shade trees to draw on, don't neglect to have a fresh posy or cluster of pretty leaves on the breakfast table. Even a confirmed hypochondriac must find his day grown brighter with a newly opened morning glory smiling into his face. Four or five morning glories, with their curling tendrils climbing over a slender vase in the center of the table are an incentive to holy living. A dainty purple or white aster, a gay nasturtium or bit of scarlet salvia ready to tuck into the buttonhole will carry sunshine with it to store or school or dingy office.

THESE SHOULD NOT MARRY.

The woman who expects to have "a good easy time."

The woman who wants to refurnish her house every spring.

The woman who thinks that cook and nurse can keep house.

The woman who would die rather than wear last season's hat.

The woman who expects a declaration of love three times a day.

The woman who marries in order to have someone to pay her bills.

The woman who thinks she can get $5000 worth of style out of a $1000 income.

The woman who proudly declares that she cannot even hem a pocket handkerchief and never made up a bed in her life.—Philadelphia Record.

HELP!

Settle Your Own Country

The Santa Fe

is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to

WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
RAILWAY EXCHANGE, CHICAGO

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

THE SHEARING.

The day they cut the baby's hair
The house was all a-fidget;
Such fuss they made, you would have said,
He was a king—the midget!

Some wanted this, some wanted that;
Some thought that it was dreadful
To lay a hand upon one strand
Of all that precious headful.

While others said, to leave his curls
Would be the height of folly,
Unless they put him with the girls
And called him Sue or Molly.

The barber's shears went snip-a-snip,
The golden fluff was flying;
Grandmother had a trembling lip,
And aunt was almost crying.

The men folks said, "Why, hello, Boss,
You're looking five years older!"
But mother laid the shaven head
Close, close against her shoulder.

Ah, well; the nest must lose its birds,
The cradle yield its treasure;
Time will not stay a single day
For any pleader's pleasure.

And when the hour's work was weighed,
The scales were even, maybe;
For father gained a little man
When mother lost her baby!
—Nancy Byrd Turner, in St. Nicholas.

THE EXILE OF CAESAR.

Caesar was a large St. Bernard dog that lived on a small island. From one end of the island to the other and all around it several times a day was no more exercise than Caesar needed to keep him from getting fat and dull. So he was to be seen often bounding and leaping over the island, taking his constitutional. Of course, living on an island, he was a great sailor and dearly loved going out with his master or any of the others. His master had charge of the oyster beds that were the property of the owner of the island and part of his duty was to see that no one stole the oysters that were waiting to be shipped to the city markets.

One day his master brought a tiny, fluffy little ball of a dog home with him from the city. Caesar looked at the newcomer with scorn and curiosity, but after an exchange of low toned remarks on his part and little sharp ones on the part of the small dog they decided to be friends and for the rest of the summer they were to be seen going about together, Caesar large and imposing, the little dog looking hardly more than a toy. When they lay down for a nap together Caesar would make a semi-circle of his huge body and the little fluffy dog would lie inside the semi-circle with his two little front paws resting on Caesar's big one.

When the summer was over, Caesar had to go with his master's family to the city to live. He had always lived on the island and had enjoyed his freedom there. He seemed to know that he was going to a less congenial place and when he went aboard the boat is was not with his customary alacrity and joy.

When they arrived at the city dock, he refused to come out from the cabin to which he had retreated. They coaxed and threatened, but Caesar staid within. At last his master put his hand and took hold of Caesar's leg. The big dog bit him till the blood came. "Oh, Caesar, how could you?" cried his master, reproachfully, and then when Caesar heard his master's voice and looked out and saw that he had hurt him he was so repentant that he came out and licked the wounded hand, whimpering and begging for forgiveness. He still refused to get off the boat however, until they turned it over so that the water came in, flooding him out. Then he swam ashore.

Sadly he went to his new home on land. His master lived in a flat and the yard was hardly big enough for him to turn around in. His appetite and spirits failed and his master saw that unless something was done he would die of homesickness.

He went, therefore, to the man who had taken his place on the island and asked him if he would buy Caesar, naming a low price at which he would sell him. The man said he would, for he wanted just such a fine, big dog to help protect the oysters against thieves. So Caesar went back to the island, and never was there a dog so glad to get home as he was to return to the island. He ran about sniffing and barking with delight and then rolled over and over with joy.

HOMELY HINTS.

To prevent a conflagration when a lamp has been overturned apply earth, sand or flour to have the desired effect and stop the spread of the flames.

A stove daily rubbed with a newspaper will retain its blacking much longer.

To make varnish dissolve a pound and a half of shellac in a gallon of naptha. Add a small quantity of dragon's blood to give it a good color.

Glue that is both damp and waterproof is easily made. Take ordinary glue, soak it in water till quite soft, then put it in a jar with a little linseed oil and stand on the stove till melted.

That rusty flatiron should be rubbed over with beeswax and lard.

To make a furniture oil take half a pint of linseed oil, half a gill of spirits of wine, half a gill of spirits of salt. Shake the bottle before using and rub on with a piece of linen.

Kerosene oil will remove finger marks without taking paint or varnish as well. It also helps to clean bath tubs and basins.

A soft chamois wrung from tepid water is good to dust fine furniture or wood work.

It is said that a bit of camphor gum put in your silver chest will help to keep the metal bright.

Salt or Indian meal will brighten the carpets and keep the dust from rising.

Whiting and olive oil mixed to a paste will remove rust from nickel.

Ivory handles of knives and piano keys will preserve their creamy tone if wiped off twice a week with a cloth dampened with alcohol. If discolored a little whiting and spirts blended may be applied with a bit of flannel. Dry with chamois.

"A little hope, a little faith serene,
A little word of strength for those who fall,
A litle smiling, tho' tears come between,
A little charity if need should call—
And O! not paltry is our life, nor small,
But big and fine with sweet delight,
If that we keep, each for the sake of all,
These little things in sight."

To look back with pleasure on our past life is to double it.

Beware of the silent dog and the still water.

He who has property in the soil has the same up to the sky.

Cookery Recipes

Editor Cultivator: Seeing your request in Cultivator for good cooking recipes, send in a few of my own, which I know to be good:

Snow Mountain Cake.—Cream one cup butter, 2 cups of sugar, very fine; add whites of eight well beaten eggs; one cup of sweet milk, four cups of flour, into which sift two large teaspoons of baking powder; flavoring to suit. Bake in layers; chocolate or caramel filling.

Chocolate Cream.—Half a cake of chocolate dissolved in a little hot water; put in a cup of sweet milk and when it boils have five eggs well beaten and mixed with two cups of milk; pour the hot chocolate into the eggs and milk; stir well and boil all together for a few minutes; sweeten to taste; set on ice.

Plum Pudding.—One cup suet, 1 cup sweet milk, 1 cup molasses, 1 cup sugar, 1 cup currants, 2½ cups raisins, 4 cups flour, 1 teaspoon cloves, 1 teaspoon cinnamon, one of spice, one of soda; put in a cloth bag and boil 3 hours. Serve with brandy sauce.

Fruit Blanc-Mange—Stew fresh blackberries or fresh peaches, strain off the juice and sweeten to taste. Place over fire in a double kettle until it boils. While boiling, stir in corn starch wet with a little cold water, allowing 2 tablespoons of starch for each pint of juice. When thick pour into moulds wet in cold water, set away to cool. To be eaten with cream and sugar.—Mrs. E. C. D., Santa Rosa, Cal.

* * *

Saratoga Chips.—A southern house keeper, celebrated for her excellent Saratoga potatoes, describes her method. It is the familiar one, with one variation. After the potatoes are sliced as thin as shavings, they are thrown into cold water until crisp. Turn this water off and pour on boiling water for an instant. This takes out all the starch. The cold water should be turned on again quicly, and left until the slices are crisp. Wipe dry and fry, a few pieces at a time, in frying basket.

* * *

A Delicious Picnic Dainty.—Hard-boiled eggs and sardines may be appetizingly united in preparing a dish suitable for picnics or lawn fetes. Remove the yolks and mash with the fish to form a smooth paste, adding a little lemon juice and salt. Fill each half of the white with the mixture, join them together and serve on lettuce or cress.

* * *

Filling—Place one-half pound of figs and one cupful of stoned raisins in a steamer and steam thirty minutes. While hot chop fine; add one teaspoonful of vanilla, two-thirds of a cupful of sugar and the beaten whites of three eggs.

* * *

Macaroni with Codfish.—Soak half a pound of codfish over night in cold water. Remove the bones and skin. Break macaroni into small pieces and boil until tender. Steam the codfish half an hour. Arrange on a plate a layer of fish and a few slices of hard boiled eggs, then a layer of macaroni and then fish. Make a white sauce with one tablespoonful of butter and one of flour. Stir over the fire until smooth and boiling. Season with salt and pepper. Pour this boiling sauce over the top of the macaroni; sprinkle chopped parsley over the top and serve.

WHAT TO SERVE.

Celery sauce with quail.
Walnut catsup, with venison.
Mint sauce, with roast lamb.
Apple sauce, with roast pork.
Currant jelly, with roast goose.
French dressing, with sardines.
Orange salad, with roast chicken.
Cream sauce, with sweetbreads.
Sauce piquante, with baked shad.
Apple sauce, with pork croquettes.
Sauce tartare, with boiled lobster.
Tomato catsup, with corned beef.
Melted butter sauce, with mackerel.
Tart grape jelly, with canvasback duck.
Chicken croquettes, with sauce tartare.
Maitre d'hotel sauce, with steamed oysters.
Celery and onion dressing, with roast duck.
Olives stuffed with peppers, with fishballs.
Horseradish and fried onions, with liver.
Olives stuffed with cheese, with cold tongue.
Parmesan cheese, with beef and veal sausage.
Oyster and chestnut dressing with roast turkey.
Cream gravy, strawberry preserves, with fried chicken.
White sauce, hard boiled eggs and parsley, with salmon.

ABOUT ANTS

Thousands of people use K. A. P. and would not be without it. If you want to hear how they like it, drop us a card. Sent prepaid, by express, only, 40 cents.

KELLOGG'S ANT PASTE CO.
1010 E. NINTH ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

EASY MONEY

The California Limited Log-Book:

It is worth the price—The Santa Fe Limited.

W. A. MacPHERSON,
1275 Gaylord St.
Denver, Colo.

SANTA FE IS THE WAY

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

The weather and crop conditions for the week ending August 23, are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

* * *

General Summary.—Nearly normal weather conditions prevailed during the week, with frequent fogs in the coast districts and clear and warm weather in the interior. A thunder storm occurred in Sacramento and vicinity Sunday night, accompanied by light rain.

Grain threshing and hay baling are progressing in some sections and completed in others. The grain crop is almost a failure in some places and fair in others, while in a few places it is reported quite heavy. The barley crop averages better than wheat in nearly all sections, and oats are very light. Hay is of excellent quality and the yield is the best for several years. Hops are advancing satisfactorily and in many places give promise of more than an average crop. A large crop of sugar beets is being harvested and the beets have a high percentage of sugar. Beans, corn, potatoes and garden vegetables are doing well. Dry feed is still plentiful in most sections and cattle are in good condition. Irrigation water is holding out well in the central and southern districts.

Although grapes in some sections were considerably injured by extreme heat during July and August, the prospect is still good for an excellent yield of most varieties. Raisin grapes are rapidly maturing and picking has commenced in some vineyards. Muscatels, Sultanas and other varieties of table grapes are plentiful in the markets and shipments are being made to eastern markets. Deciduous fruit harvest is progressing and canning and drying continue. Walnuts and almonds are making good growth. Citrus fruits are in excellent condition in all sections and the prospect is good for a record-breaking crop.

* * *

Eureka Summary.—Foggy mornings, but past week generally favorable. Worms doing much damage to vegetables in the Arcata bottom. Peaches are poor. Apples about an average yield; quality of early varieties fair. Harvesting oats rapidly.

* * *

Los Angeles Summary.—Beans doing well under favorable weather conditions. Threshing continues; yield good. Some shipments made. Mountain pasture excellent. Meadow hay being cut. Some thunderstorms in the mountains.

HOW IT LOOKED.

"Dear John," wrote Mrs. Newlywed from the shore. "I enclose the hotel bill."

"Dear Jane, I enclose cheque," wrote John, "but please don't buy any more hotels at this price—they are robbing you."

AN AD-VANTAGE.

He who would add unto his trade
Should have an "ad" and well displayed.
For "ads", if one knows how to write 'em,
Add to one's trade ad infinitum.

Los Angeles Markets.

Los Angeles, August 23, 1905.

Butter.

B. of T. Creamery	57½
Valley Creamery, fancy	55@57½
Coast Creamery	47½@50
Fancy Dairy	45½@47½
Cooking, per lb	17@18

Cheese.

Cal. 3-lb. hand	14¼
Cal. Young America	15¼
California Anchor	14¼
Northern	12½@13
Eastern	16
Domestic Swiss	16½
Imported do	27½

Eggs.

Eggs remain the same as last week and receipts still continue light.

Eggs, fresh ranch	29@30
Eastern and Storage	25@26
Seconds	21@22

Poultry.

Poultry about the same as last week. Turkeys, live, at sixteen to eighteen cents, while dressed stock commands from twenty-three to twenty-four.

Fryers, 2½ lbs	13@14
Broilers,under 2 lbs, per lb	13@14
Young Roosters, per lb	13@14
Hens, per lb	12
Ducks, per lb	10
Turkeys, per lb	16@18
Geese	11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	6.00
Prime Steers, cwt	4.00
Cows, cwt	3.00
Calves, cwt	4.75
Sheep, ewes, per head	3.50
Lambs, do	3.00
Wethers, per head	4.00

Potatoes.

Northern potatoes from Salinas are of poor grade and the quantity received caused a slight decline from the quotations of last week at $1.25 to $1.10 to $1.25 at present. Highland potatoes are better in quality and readily command $1.25.

Northern, per ctl	$1.10@$1.25
Locals, per ctl	75@$1.25
Sweets, white, per cwt	$1.50
Sweets, yellow	$1.75@2.00

Vegetables.

Vegetables show advanced prices, or holding firm. Onions are higher, cabbage a little less, while peas are cheaper than last week. Cull tomatoes are but 15 cents, while the choice run from 35 to 50 cents.

Onions, yellow, per cental	$1.00@1.25
Onions, Silver Skins	90
Beets, per 100 lbs	75
Cabbage, per sack	50
Parsnips, per sack	60@65
Bell Peppers	2@3
Cucumbers, per box	25@35
String Beans	1½@2
Wax Beans	2@2½
Green Onions, doz bunches	20@25
Carrots, doz. bunches	25@30
Turnips, doz. bunches	25@35
Garlic	20
Peas, per lb	3¼@5
Rhubarb, per lb	04
Egg Plant	4
Chili Peppers, green	1½@2
Chili Peppers, dry	1[illegible]
Tomatoes, local	35@50
Asparagus	8½@10
Parsley, per doz bunches	30@40
Summer Squash, bx 20 lbs	15@40
Green Corn, per sack	50@75
Lima Beans	2½

Citrus Fruits.

Valencias	$2.00@3.00
Lemons, standard	1.00@1.25
Lemons, fancy	2.00@3.00
Grapefruit	1.00@1.50
Grapefruit, seedless	1.25@2.00

Fresh Fruits.

Strawberries	4@6
Blackberries	5@6
Logan Berries	5@[illegible]
Apricots, per bx., nominal	
Peaches, per box	75c@$1.00
Plums	75c@$1.00
Nectarines	75c@$1.00
Figs, per box	25@50
Grapes, Thompson's Seedless	50@75
4-Tier Alexanders	$1.15@1.25
Muskmelons, ponies	60@75
Do, large crates	1.50@1.75
Watermelons, per lb	½@¾

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	2.75@2.85
Small Whites	3.15@3.35
Black Eyes	2.50@2.75

Nuts.

Almonds, paper shell	18@20
Almonds, soft shell	18@20
Peanuts, California	5@6
Peanuts, Eastern	7½@9
Walnuts, No. 1 softshells	14@15
Walnuts, hardshells	10@12

Honey

Honey, comb, frames	10@15
White strained, per lb	5@5½
Amber	4@5
Beeswax	23@25

Hay.

Barley, new	8@12
Alfalfa, local new	$10@11.50
Alfalfa, no thorn	10@11.50
Wheat, new	10.00@11.00
Tame Oat, new	$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.50@1.55
Barley	$1.00@1.02½
Corn	1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	1.25
Feed Corn Meal	$1.60
Middlings	1.40
Cracked Corn	$1.55
Corn	$1.50
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

The beds or sheds for young pigs should always be arranged so the pigs can have the full benefit of the sun's rays.

San Francisco Markets.

San Francisco, August 23, 1905.

Dairy.

The best grades of creamery butter have advanced a cent over quotations of a week ago. These prices have been well maintained and available parcels of the favorite brands have been closely cleaned out of the first hands. There is a good buying interest displayed on the cheaper sorts.

BUTTER—Per lb:

Creamery, fancy	25 @26
Creamery, good to choice	23 @24
Dairy, choice	20 @22
Store	17 @18

CHEESE—Per lb:

Cal. Creamery, mild new, ex.	12 @13
Do, choice	9 @10
Young American	12 @13
Eastern, N. Y. Cream	15 @16

Eggs.

Ranch eggs have been in light demand but have ruled steady at the old prices under light supply. The best selections of whites have secured the maximum rates.

Ranch, selected large	32 @33
Ranch, good to fancy	28 @30
Store	18 @23
Eastern, extra	24 @25
Eastern, firsts	21 @23
Eastern, seconds	18 @20

Poultry.

Young poultry has advanced slightly since last quotations, but at this time the market is in free supply, heavy receipts arriving from near by points and the market weaker in tone.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $5.50@7; Fryers, $3.50@4; Broilers, $2@3; Hens small, $4@5; large, $5.50@6.50; Live Turkeys, per lb., 19@22c; Spring Turkeys, 23@25c; Ducks, old, $4@4.50; young, $4@6; Geese, per pair, $1.75@2; Goslings, $2; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@$1.75.

Fresh Fruits.

Apples, per box, fancy, 85c@$1.15; common to choice, 40@75c; Crabapples, per small box, 60@75c; large, $1.40@1.75.

Figs—Per box, Black, 50c@$1, as to size of package; White, 40@65c.

Pears—Per box, Bartlett, 75c@$1.50; bulk, per ton, nominal; other varieties, per box, 50c@$1.

Peaches—Per box, Mountain, 50@85c; carriers, 40@80c; open boxes, 60c@$1.50; bulk, per ton, $30@50.

Plums and Prunes—Per small box or crate, 50@85c, as to variety; open boxes, 40c@$1.

Quinces—Per box, 50@75c.

Grapes—Per box or crate, Seedless, 60@85c; Sweet water, 50@75c; Muscats, 60c@$1; Blacks, 60c@$1.

MELONS—Cantaloupes—Per crate, River, $1@1.25; Watermelons, per doz., $1@3.50; Nutmeg Melons, 50@75c.

BERRIES—Blackberries—Per chest, $1.50@3.

Raspberries—Per chest, $7@9.

Strawberries—Per chest, Longworths, $8@9; large varieties, $4@6.

Huckleberries—Per lb., 6@7c.

Vegetables.

VEGETABLES—Tomatoes, per box, 75c@$1.25; Green Peppers, per box, Chile, 25@50c; do, Bell, 35@50c; Okra, per box, 50@75c; Garden Beans, per lb, Green, 1@2c; do, Wax, 1½@2½c; Lima, 5@6c; Garden Peas, per lb, 3c; Cucumbers, per box, 25@35c; Summer

Squash, per box, 35@50c; Egg Plant, per box, 50@75c; Garlic, per lb., 5c; Green Corn, per sk, 50c@$1; per crate, $1@1.25.

POTATOES—Per ctl.: River Burbanks, 50@70c; Salinas Burbanks, 90c @$1.15; Early Rose, nominal; Garnet Chile, 40@50c; Sweet Potatoes, $1.25 @$2.25.

ONIONS—Per sk, Yellow, 70@90c.

Dried Fruits.

Apricots and peaches are attracting lively buying interest and the recently advanced rates are firmly held. It is reported that some packers have sold peaches short. Prunes are firm at current rates and offerings find ready market.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, 1905 crop, fancy, 7½c; choice, 6¾@7c; standard, 6¼@6½c; Sun Dried, nominal.

Peaches—Crawford, fancy, 8¾c; choice, 8@8¼c; standard, 7¾c; Muirs, fancy, 9¼c; choice, 8¼@8¾c; standard, 8c.

Prunes, 1905 crop—Sack basis, f. o. b., for boxed goods add ¼@½c; four size basis, 3¼@3¾c; old crop, 2¾ @3c.

Apricots—Royal, fancy, 8¾@9c; choice, 7¼@8¼c; standard, 6¾@7c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

Honey and Beeswax.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@ 6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

Hops.

The price of desirable old crop is nominal at 15@20c per lb., according to quality, new, 1905 crop, 14@16c.

Beans and Seeds.

BEANS—Prices per ctl. for sound selections; Large White, $2.75@2.90; small do, $3.50@3.75; Pea, $3.25; Limas, $5.50@5.75; Red, $6.50@8; Pink, fancy, $3.65@3.90; recleaned, ordinary to choice, $2@2.50; Bayos, $4@4.50; Blackeyes, $3.75@4.25; Red Kidneys, $4@4.50. Rain damaged lots of all descriptions offering from 50c@$2 a ctl. below foregoing figures, according to condition.

Live Stock.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@ 5½c; rough heavy, 4¼@4½c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $7.50@13.50; Wheat and Oat, $7@12.50; Oat, $6@ 11; Barley, $6@9; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6.

New Crop—Wheat, $9@13.50; Oat, $7@11; Wheat and Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@ 24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $21.50 @22.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@28.50.

Flour and Cereals.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70 @4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.35@$1.42½ for new crop; old higher; White Milling, good to choice, $1.45@1.55 for new and $1.60@1.65 for old.

BARLEY—Choice, No. 1 Feed, $1@ 1.05; some fancy up to $1.06¼; off grades, 97½@98¾c; Shipping and Brewing, $1.05@1.10; Chevalier, $1.10 @1.25.

OATS—Good to choice White, nominal; Red, $1.20@1.40 for new crop; Black, for seed, $1.40.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small do, $1.55@1.62½; White, $1.37½ @1.42½; Eastern, Yellow, $1.40@ 1.42½; White, $1.40@1.42½; mixed, $1.40.

RYE—Good to choice, per ctl., nominal; new, $1.47½@1.50.

CITRUS MARKETS

Citrus fruits in the eastern market probably reached flood tide for the year last week. Carload after carload of oranges sold in the New York market for exceeding $2000 in price. Old Mission Valencias sold as high as $2400 per car, while a car of Golden Rule Valencias sold by the Exchange grossed $2311 and another grossed $2201. Twenty carloads of oranges and three carloads of lemons were sold during the week as compared with fifteen cars of oranges and two of lemons the corresponding week last year, when prices were fully $2 per box lower than now.

This shows the market to have been in phenominally good condition. As there is little fruit yet to go between now and the first of November, these prices may be again reached but will hardly be exceeded. Lemon prices were also skyward and with very few foreign lemons to come in till October and the California crop nearly exhausted, high prices will in all probability be the rule for some time.

This week the prices have not been quite as good as last week, although demand continues very active and as the same grades have not been offered, it is hard to make comparison. Fruit of second grade has been sold very high and the trade believes it has reached its limit.

New York.

On Tuesday seven cars of citrus fruit, mostly Valencias, were offered at auction. Fancy grades averaged from $5.10 to $6.50, while choice sold from $3.40 to $6.00. A car of Isis, extra fancy, sold for an average of $4.86 per box; La Mesa, extra fancy, sold for $5.09, while a car of extra choice from Highgrove averaged $3.37½. A car of standards from Monrovia brought $3.50 on an average, and a car of choice from Rialto sold for $4.19. Another car of choice, from Riverside, sold for $4.65.

Mediterranean Sweets sold from $3 to $3.80. Fancy grapefruit brought $9.25 per box, the highest price during the season.

Nine cars were sold at this market Tuesday, the largest sale so far this month. Fancy grades of Valencias sold for $4.35 to $5.00 per box. Choice brought from $4.00 to $4.65 and standards from $3.40 to $4.20.

Six thousand boxes of Sicily lemons, generally in good condition, brought, for fancy 300s, $6.60; choice 300s, $5.85; fancy 360s, $6.10 and choice 360s, $5.60.

Seven cars were offered at the auction Wednesday. Fancy Valencias brought from $4.15 to $6.70; choice from $2.65 to $5.80. Fancy Med. Sweets sold at an average of $3.95.

One car of lemons from the Arlington Heights Fruit Co. sold for record prices, extra fancy selling from $7.87½ per box; fancy, $6.65 and extra choice, $6.62½.

Boston.

Two cars of citrus fruit were sold in this market Monday. One car of Valencas brought from $4.50 to $6.15 per box. The other car being lemons, averaged $5.25 per box for fancy.

On Tuesday three cars of citrus were sold. Extra choice Valencias brought $5.40 and choice $4.70. One car of Jaffas, choice, brought an average of $5.30 per box.

Fancy grapefruit sold for $4.00; standards, $2.55.

Philadelphia.

This market has been very strong and but little fruit offered. Tuesday one car of extra choice California lemons were sold at an average of $5.65 per box.

Chicago.

The demand has been very fair. The market is firm on lemons, with plenty of fruit offered. Prices for California fancy lemons, 300 to the box, $7.00 to $7.50; 360 to the box, $7.00 to $7.50; 210 to 240 in boxes, $5.50 to $6.00.

Not many oranges have been in the market. Prices have been rather high, but there is fair sale, Valencias bringing, regular sizes, $5.00 to $5.50; large sizes, $4.25 to $4.50.

CITRUS SHIPMENTS.

Total shipments for the season to date have been 28,769 cars, of which 2772 were lemons.

Fresh Fruit Sales.

Heavy shipments to the East by the California fruit distributors of Sacramento have continued this week. Reports of sales indicate that the market is easier in Boston but is still strong in New York. Other points are averaging slightly below last week. The sales of last week and those of the week before were phenomenal, cars selling from $1100 up to $2200. These prices will in all probability not be again duplicated this season, though the prospects are for good prices for some time to come.

To show what the strength of the market this week is, we quote Tuesday's sales at New York, as follows:

Susquehannas, 85c to $1.70; average, $1.20; Crawfords, 75c to $1.40; average, $1.20; Orange Clings, $1.30 to $1.50; average, $1.42; Elbertas, 85c to $1.80; average, $1.35; Bartletts, $1.35 to $3.25; average, $2.70; Malagas, $2.50 to $2.60; average, $2.52; Giants, $1.05 to $2.20; average, $1.55; Hungarians, $1.55 to $2.30, average, $1.85; Kelseys, ripe, 55c to $1.75, average $1.15.

In Boston the auction results were as follows: Bartletts, $1.15 to $3.80, average, $3.20; Malagas, $2.20 to $2.65, average, $2.25; Late Crawfords, 60c to $1.70; average, $1.32; Susquehannas, Early Crawfords, Orange Clings, 65c to $1.65, average, $1.05; Albright, 85c to $1.25, average, $1.10; Yellow Free, 60c to $1.15, average, 90c; Kelseys, $1.00 to $1.75, average, $1.25; Tragedy, $1.10 to $1.60, average, $1.40; Hungarians, $1.35 to $2.65, average, $1.65.

California Dried Fruits.

NEW YORK, Aug. 22.—The market for evaporated apples is unchanged, with a firm feeling; common to good, 4½@6; prime 7¼; choice 7½ and fancy 8. Prunes are unchanged, from 4¼ to 6½, according to grade. Apricots show no fresh feature, with choice quoted at 8@8¼; extra choice, 8; fancy 9½@10. Peaches are quiet, with fancy quoted at 11½. Raisins are scarce, and prices show an advancing tendency. Loose muscatels are quoted at 4¾@6; seeded raisins 5½@7½, and London layers $1.00@1.15.

IN WOMAN'S BREAST

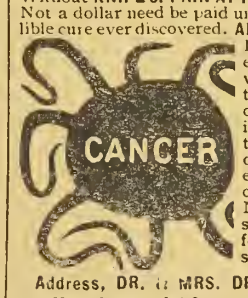
ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.



Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third S'., San Francisco, Cal.

Please Send to Some One with Cancer

When writing advertisers mention Cultivator.

Santa Fe

Back East Excursions

ROUND TRIP TICKETS TO

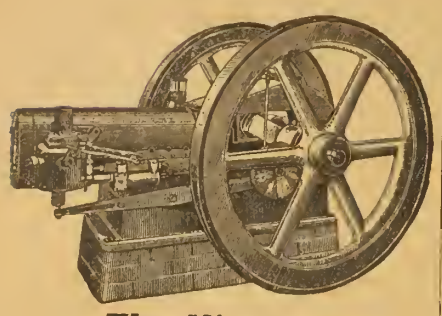
Chicago	$ 72 50
St. Louis	67 50
Memphis	67 50
New Orleans	67 50
Kansas City	60 00
Omaha	60 00
St. Paul	70 00
Minneapolis	70 00
Duluth	72 50
Fort Worth	60 00
New York	108 50
Boston	109 50
Philadelphia	107 50
Baltimore	107 00
Washington D. C.	107.00

ON SALE
August 15-16-24-25.
September 7 8-9-10-11-16-17.
Good for 90 days.

DENVER AND RETURN, $55.00
ON SALE
August 10-11-12-30-31.
Good for 40 days.

These tickets are all honored on
The California Limited

From Los Angeles Times, Wednesday, August 16, 1905:



The Western Gas Engine

LOCAL FIRM GETS PLUM.

Western Gas Engine Co Given Contract for Motor Machinery at Yuma Dam.

Complimentary to Los Angeles and Southern California, as recognized factors in the manufacturing field, the New York Engineering Company, which has the $800,000 contract for constructing the government's reclamation project above Yuma, has determined to use gas instead of steam in the immense work of water excavation at the Yuma damsite, and has ordered nine Los Angeles-built engines for that purpose from the Western Gas Engine Company of this city.

The supervising engineer of the New York concern, C. G. Young, intended to utilize steam in this pump work, but during a recent visit in Los Angeles he was convinced by tests that the gas engines manufactured by the local firm named would be far more advantageous than steam engines, both in power and economy. This recognition by New York of Southern California's machinery-manufacturing ability is keenly appreciated here.

NOTE.—The above news item chronicles the greatest victory every achieved by a California manufactured product. When the most famous expert engineers of this country, and in fact in the world, declare the Western to be the most reliable, substantial and economical power for this most important work, in preference to all other gas engines, East or West, and even in preference to steam, it puts a certain value upon the Western Gas and Distillate Engine that should make it the exclusive choice of every user of power. Numerous other gas engines recognized in this market and known to these engineers, were not even considered, on account of their known unreliability.

Much of the work will be done with steam, as we were unable to furnish within the time specified all of the engines wanted, but these nine, most of them of large size, will all be delivered within 30 days from the receipt of the order. These engines will be run with California No. 2 distillate.

WESTERN GAS ENGINE CO., 908 to 932 No. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

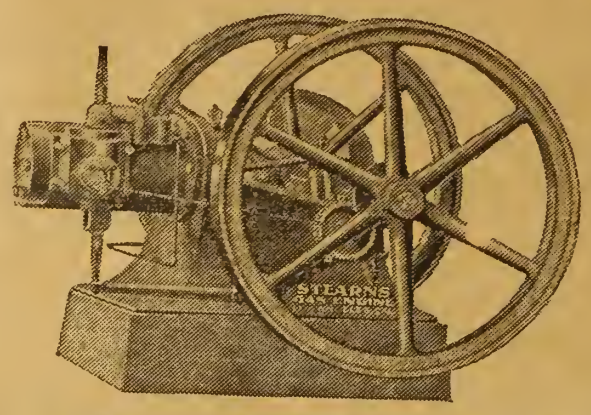
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

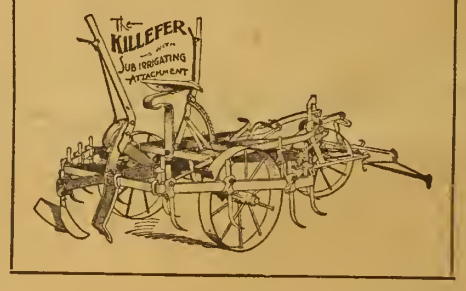
PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

305

California Cultivator

LOS ANGELES SAN FRANCISCO

SEPTEMBER 1, 1905

Pumpkins Growing Between Young Grape Vines in the San Joaquin Valley.

PUMPKINS AS A STOCK FOOD.

The above cut is very typical of a pumpkin patch in California. Here grows bigger fruit of this kind than anywhere else in this country. We have seen specimens that weighed two, three and even five hundred pounds each. Stock of all kinds relish the pumpkin and growers make good profit from the land devoted to raising them.

CIRCULATION EXCEEDING 10,500

The Southern California Fruit Exchange

MAIN OFFICE: ROOMS 802-3-4 H. W. HELLMAN BLDG., LOS ANGELES

During the Past Year:

The Exchange has marketed 14,200 cars of oranges and lemons at an average price per car net f.o.b. California, every car included, of over $500, which is over $100 per car more than was received for Exchange fruit during the previous year.

The Exchange obtained the $1.00 rate on lemons continuous throughout the season, which saves in freight to lemon growers, $65.52 on every car shipped.

The Exchange, taking advantage of conditions as they existed in February, started a campaign of advertising our California lemons, of which this State had a large crop this year, with the result that the best prices in the history of the lemon industry have prevailed during the last 100 days. Not realizing our purpose in this lemon campaign, we were most severely criticised by our competitors when we entered upon it, although the wisdom of our action is now clearly apparent to all.

The Exchange sent Jos. H. Call to Washington to appear before the Senate Committee of Inter-State Commerce in the interest of governmental control of railroad rates and private car lines.

The Exchange, through a committee, appeared before the State Board of Trade at San Francisco and obtained the passage of a resolution against reciprocity treaties in place of a proposed resolution in favor of such treaties.

For the Year That We Are Just Entering Upon:

The Exchange has obtained an adjustment of the required minimum in citrus fruits according to the length of the car, thus preventing the overloading of short cars, which practice has caused in the past immense losses from decay to the owners of the fruit.

The Exchange has purchased boxes for the ensuing year at a reduction of around 1½c each, saving to the growers more than $5.00 on each car of fruit shipped, amounting on our business to nearly $100,000 annually. Non-exchange growers, as well, will benefit in this reduction in price on boxes, unless their packing is handled at a fixed price per box, in which case the packer, and not the grower, will get the benefit of the reduction.

The Exchange will continue the fight against reciprocity treaties, hoping thus to prevent any reduction in the duty of 1c per pound on citrus fruits which we now enjoy.

The Exchange has already employed Jos. H. Call to appear in the new investigation of private car lines that has recently been ordered by the Inter-State Commerce Commission.

In all matters affecting the citrus fruit industry the growers can, in the future, expect the **Southern California Fruit Exchange** to take the lead in their interest, as it has in the past, and, in many instances, to fight the growers' battles alone, unaided by other shippers.

Until those who criticise the Exchange can prove to the growers that they have in the past looked after the growers' interests better than has the Exchange, their arguments, made clearly for the purpose of creating dissatisfaction, from which the speculator shippers expect to gain personally, can have but little weight.

The Southern California Fruit Exchange has nothing to conceal and invites a close inspection of all its transactions by those interested, either through its Los Angeles office, or through its various branches in the shipping districts.

Owing to the addition to our holdings of large blocks of fruit in Central and Northern California, in order that we may not be considered sectional or local, our Board of Directors has deemed it advisable to operate after September 1st underthe name of

California Fruit Growers Exchange

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 9 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 1, 1905 Subscription $1 a Year

A Huge Dam Being Built in Wyoming

A Description of One of the Big National Irrigation Projects, by Guy Elliot Mitchell.

A quarter of a century ago the home of the buffalo, and later a cattle and sheep pasture, with an occasional ranch house, the Big Horn Basin in Wyoming is now the scene of a great activity incident to the building of one of the largest of the government irrigation works. Some years ago Colonel Cody, better known as Buffalo Bill, made a survey of the Shoshone canyon, and in connection with General Miles projected a company to construct a dam and irrigate some 60,000 acres. The necessary capital, however, was not forthcoming, and when the national irrigation law was passed, the government took up the proposition and a large party of engineers has since been employed on the preliminaries of a great work of desert reclamation.

The Shoshone river dashes down a narrow canyon, with jagged and perpendicular walls, and at its narrowest point the government has begun the construction of the highest dam ever built. It will cement together the two canyon walls for 240 feet about the stream bed and its foundation will go below the water line 88 feet additional, down to the solid bed rock. The stream, where it passes between these granite canyon walls, is but 65 feet wide and the dam will form a great lake of 5,000 acres, with a watershed of 1250 square miles, storing enough water to irrigate 150,000 acres, through seven miles of 14-foot tunnels bored in the solid rock.

* * *

No Chance for Land Grabbing.—This will cost about $25 an acre, to be paid back to the government by the settlers under the business-like provisions of the irrigation law. The land itself is free under the homestead act and has been reserved by Secretary Hitchcock from entry under the Desert and other land laws not requiring actual residence and home building.

Few such picturesque and wildly beautiful scenes can be found as this Shoshone canyon. The river is a succession of foaming, rushing rapids, the water coursing along in a deep green flood, and then boiling over great rocks and boulders in a white surge. Only for a few hours each day can the sun find its way to the bottom of this deeply cut gorge, the mountain sides towering into the clouds two and three thousand feet. From above the dam site as one looks down at the engineers working on the foundations, directly underneath, they appear like mimic men.

* * *

Great Forces of Nature.—This Shoshone canyon and its surrounding mountains are one of nature's great handiworks. All has been cut out by the silver stream, rushing in its bed below. For countless ages it has eaten its way through granite and limestone, wearing, wearing, wearing away. For centuries and ages it has flowed, ceaselessly and likewise uselessly on its way to join the flood of the Missouri; now it is to be harnessed and made to produce for man. A thousand farmers will make prosperous homes for themselves and families and raise an annual product of a couple or three million dollars.

Shoshone Dam Site, Jeremiah Ahern, Supervising Engineer U. S. Reclamation Service, in Charge.

In the canyon proper the great forces of nature have wrought wonderfully. Enormous granite boulders have detached themselvse from the mountains and rolled down thousands of feet, crashing their hundreds and thousands of tons into the rocky gorge. Here the river continually plays upon them, searching out the seams and splitting them up or wearing them away and polishing them smooth.

* * *

The Rock Pile of the World.—In the canyon's middle, below the dam site, the jungle of rocks in the narrow river bed appears as though a thousand blasts of giant powder had rent the mountain sides and tumbled every rugged projection into the depths below. The imperishable granite, gray, pink, and vari-colored, oldest of the geological formations made by the welding of various substances when the globe was a molten mass; the later limestones and black volcanic rocks, conglomerates also melted by great heat, the hard red sandstone and its white and brown contemporaries, formed from the grindings of other rocks subjected to enormous pressure, and lastly the geyserites and sulphur rocks, soft and honeycombed, the result of ceaseless spoutings of steam and hot water from the earth's bowels—all are found in wonderful profusion.

Below the canyon where the river runs more peacefully, all these formations are represented in the huge beds of cobble stones and smaller boulders over which the water plays. The cobble stones were themselves once jagged rocks, detached by wind, water, frost, and sun, from their mountain bases and rolled and ground by river force until all their sharp corners have been worn and polished away.

* * *

A Giant Fire Cracker—Watching the government engineers cutting a road along the side of the canyon for the transportation of supplies to build the dam—60,000 barrels of cement alone will be needed—I observed the explosion of a big charge of dynamite, which burst with a roar echoing up and down the canyon with deafening reverberations. Immediately an oblong granite rock of some 150 tons weight was torn from its base and hurled down into the river a hundred feet below. Shatters of rock flew in all directions and a great splash of water rose like a geyser out of the black depths of the canyon into the sunlight in a majestic water spray. Yet this huge block of granite was but a baby addition to the family of boulders which had been detached by the more giant forces of nature and thrown into the river bed. A few hours before I had crawled directly under this rock in my canyon exploration. Returning I was glad to accept the assistance of one of the road builders in getting across this place, looking down the while into the river boiling below among the rocks.

"If you slip, you can get out a quarter of a mile down stream," remarked one of the dynamiters cheerfully, as I passed my camera over and was inching across this slippery six feet, clinging to the canyon side.

The engineering credit for this great project with its great dam, its enormous spillways, its mountain road building and its miles of canals and huge tunnels bored through the solid rock, is due to Jeremiah Ahern, a government district engineer who, almost cut off from the outside world, has taken up his residence for several years in this wild canyon, once a fastness of the Shoshone Indians.

* * *

National Irrigation.—What does all this great irrigation work of the government throughout the west signify?

(Continued on Page 206)

California Horticulturally

By John Isaac, Sacramento, Cal.

CAN CHECK THE PEAR BLIGHT.

Professor Waite, who knows more about pear blight than any other one man in the United States, having made a special study of it for the Department of Agriculture for many years past, assured the writer that he is so confident of his method of treatment, which consists of cutting out the hold-over blight in the fall months, that he purchased a tract of land in the blight infested section of the east and set it all out to pears. If there is any sure check for this disease, the man who plants out an orchard now will make money when it comes to bearing. There is a strong disinclination for planting pears on account of the disease and very many of the old orchards are being abandoned or dying out and in another five years the man who has a bearing orchard of Bartlett pears will have a sure income. Prof. Waite has faith in his methods and it may be wise to follow his advice and example.

* * *

GATHERING STATISTICS.

The statistic blanks which have been prepared by the State Agricultural Society are now ready and in a few days will be in the hands of the supervisors of the different counties. The work of gathering statistics is made mandatory on the different counties, and it is to be hoped that it will be faithfully done, as there is a great need of the facts and figures which it is sought to obtain by this means. Heretofore most of the statistics have been gathered by the assessors and, even where they have done their duty, they have found it difficult to get the desired information, as many of the people believed the figures were desired for taxing purposes and failed to tell the truth. In other cases, the assessors have regarded this work as so much extra labor put upon them for which they received no compensation and have either failed to attend to it or have done the work so badly that it was worthless. Under the new arrangement we shall be able to secure reliable data in regard to the horticultural and agricultural wealth and progress of our State. There is nothing which conveys information so well as accurate figures and under the new law we may hope to receive these from all the counties.

* * *

PARASITE FOR PURPLE SCALE.

Several years ago, during one of Compere's visits to China, he discovered a lot of very badly parasitized purple scale. It was during the time of the Boxer troubles, and he was unable to pursue his investigations very thoroughly, but he secured a quantity of infested twigs and forwarded them to Mr. Craw. The condition of the scales, the long voyage, and the lack of sap in the twigs, rendered the sending useless, except as a proof that the purple scale in China has an effective parasite. A new effort is to be made to obtain this parasite, and an effort that will probably be crowned with success. To make certain of getting the parasite here in good shape, California orange trees infested with the purple scale have been forwarded to China; these will be taken by Compere and placed in a position to become thoroughly parasitized with the little enemy of the scale; as soon as this is done the trees, with their scale and contained parasites, will be carefully packed up and forwarded to San Francisco, where every preparation will be made to receive and breed them for general distribution. That there is an effective parasite for this pest to be found in China there is no doubt, for the writer carefully examined the original package of twigs forwarded by Compere and found on them a large quantity of scales, but of these at least ninety per cent showed evidence of parasitism. While on this subject of parasites, I note that the Scutellista cyanea is doing all, or even more, than was claimed for it and we have reduced another of our scale enemies to complete subjugation. The work of this little insect on the black scale has been almost as remarkable as that of the Vedalia cardinalis on the cottony cushion scale. The new parasite of the codling moth, which Ashmead has announced as Calliephialtes messer, is also sending in good reports and gives promise of good work yet. It is yet too early to assert positively what it will accomplish, and it seems almost too good to believe that we have an effective check for the codling moth, but reports from disinterested sources are so good that we are very hopeful.

* * *

A NEW PLUM.

Frank Femmons, of Ahwahnee, Madera county, has produced a very meritorious new plum. It is a seedling, produced on his place, and has been in bearing for several years, so that its good qualities have been tested. Its special qualities are its size, which is large, color deep purple, and very uniform, it ripens early and colors perfectly before the fruit is perfectly ripe; it is a good shipper and of excellent flavor. Another advantage, in sections where late frosts are liable to come, is that it is a late bloomer. Taken altogether it is one of the best all around plums we have seen and in honor if its originator it has been decided to call it the Femonzi, or Femmon's plum.

* * *

FIGHTING THE PEAR BLIGHT.

In accordance with his early arrangements Prof. M. B. Waite, pathologist in charge of diseases of orchard fruits, with the Department of Agriculture at Washington, arrived last week, and at once commenced his investigations into the condition of the pear orchards in Northern California. Prof. Waite's one remedy is cutting back—and especially cutting back late in the fall—what is termed the hold-over blight.

During the growing season of the tree the blight is spreading through it, the more rapidly as its growth is more vigorous. When the tree becomes dormant for the winter, the spread of the blight is stopped. It is then that the most effective work can be done. By searching out all the blighted parts, and cuting out all of these parts, a good distance below the point shown to be affected, all the germs of the disease can be removed, and there being nothing to give it a start again the next spring, it necessarily stops until it gets a new start from some other source. It is likely that if all pear growers whose trees are affected would faithfully follow out this plan, we should be able to control the blight

SPENCER 3 HAY PRESS
TONS MORE IN 10 HOURS
That's the greater capacity of *Spencer's Box Hay and Straw Press* with no more help to run it than any other two horse press.
WE'LL PROVE IT
or make you a present of the press. If you're looking for the best, the Spencer Press is the one to buy. Catalogue tells how we prove all claims or no sale. Sent free—write for it.
J. A. Spencer
Dwight, Ill.

Best Prune Dip
GREENBANK
Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO
When writing advertisers mention Cultivator.

RUBEROID ROOFING
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.
When writing advertisers mention Cultivator.

We Can Save You More Money
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping
J. L. BERRY SUPPLY CO., Los Angeles, Cal.
Office; 304-305 Douglas Building Shops and Yards: 860 North Main St.
Phones: Home 2367; Sunset Red 2811 Phones: Home 1088; Sunset Main 1088

WATER IS KING
pump your own water by cheapest known method. Write A.T.Ames, Galt, Cal. for catalogue

SHASTA ROUTE is the way to the great
SOUTHERN PACIFIC
LEWIS & CLARK EXPOSITION
Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.
$35.00 ROUND TRIP
Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles
SOUTHERN PACIFIC

Conducted by PROF. A. J. COOK, Claremont

BEE KEEPING FOR BEGINNERS

It occurs to me that there are three lines of work which it will pay our Government to undertake on behalf of beekeepers. It was my pleasure recently to pay a visit to Dr. E. S. Phillips of the Department of Agriculture, at Washington, who has charge of the apiarian matters, in the absence of Mr. Benton. Dr. Phillips is a young man, but he has made a very thorough and comprehensive study of all our most important bee problems. I doubt if more wisdom could have been shown than was manifest in his appointment to the department. We talked over the matter which I have already referred to in the Cultivator, of research work in the line of determining those parts of the country best adapted to apicultural pursuits. Dr. Phillips seems just as interested in this matter and quite as enthusiastic in regard to its importance as any one could be. I believe if he can have his way, and a man of his energy is very likely to gain his point, there will be, ere long, valuable investigations in this direction. The second matter, that of importing new bees in hopes of improvement, is certainly very desirable. Mr. Benton, as we know, is already on his way to the Orient, in quest of new and untried races and species of bees. Surely no one in the country is better able from knowledge and previous experience to carry on this work to a splendid consummation than is Mr Benton. Even should we not gain any advantage from such importation as he may make, we still shall gain a most important point. The matter will be settled once for all and we shall no longer waste energy in laboring to secure these importations. Dr. Phillips informs me that there is also an effort being made to secure the stingless bees of Mexico and South America. It is hoped that these bees may be of value. It has even been suggested that possibly they might be crossed with our common bees to our advantage. While I have no faith at all in such a cross, as these bees seem very different from our ordinary bees, yet in the interests of science, I am heartily in favor of the introduction of the Melipona and others into our country. The scientific importance of the matter more than warrants the expense. We may all be justly proud of the grand work that our country has done in the past in the direction of scientific work. The introduction of the bees of the genera Melipona and Trigona will be looked upon with great interest by all scientists and we may well hope that the government may not let this matter end simply in talk.

The third matter has to do with the improvement of our present bees. I have long believed that here was a fruitful source of great benefit and I was specially pleased to find that Dr. Phillips is wide awake in this matter and has already commenced valuable experimentation looking to such improvement. Who shall say that the valuable work wrought by Luther Burbank in his marvelous experiments with our various vegetables and fruits may not be duplicated by Dr. Phillips in his research work with our bees. It has long seemed to me that this was a specially inviting realm for the wise scientist. The honey bee shows a marvelous susceptibility toward improvements. Where else in the whole realm of nature do we find such remarkable variation? Even with natural selection alone, the bee has shown marvelous development. Think of the queen bee laying nearly twice her own weight of eggs each day. Except in the case of the white ant we have nothing comparable to this in all the sphere of animal life. The bee can do more things and do them well than any other animal. This implies a wonderfully varied anatomy and he who studies the bee finds just this. This should not be the work of a day, month, or even year, but should extend over a long series of years. We all know what signal improvements have been made in breeding our horses, cattle, sheep, dogs, etc. There is no reason to doubt but that the same assiduity which has wrought so well in these lines may not accomplish quite as much if not more in similar work with our bees. Surely we will all watch these researches of Dr. Phillips with exceeding interest, believing that with his excellent scientific training, his full knowledge of the requisites for success, we may reasonably expect splendid fruits. I am sure that Dr. Phillips will have the sympathy and appreciation of not only every beekeeper but also of every scientist of the country.

* * *

A GOODLY EXHIBIT.

One of the conspicuous objects on the magnificent lawn fronting the agricultural grounds of Washington is a beautiful apiary. Every visitor who goes up from Pennsylvania avenue to visit the several departments where so much is to be learned concerning every phase of agricultural development, will see off to his left towards the Smithsonian Building and the National Museum a goodly array of bee hives, each populous with its thousands of ever busy bees. This recognition of the importance of the apiary in our social affairs, is certainly most gratifying. Bees not only conserve a valuable food product which would otherwise go to waste, but they are also of inestimable value in the great and necessary work of cross pollination of our various fruits and vegetables. The government, by locating an apiary so prominently on the ground devoted to agricultural research, shows to the world a recognition of the value of the honey bee, which I believe is without precedent anywhere else in the world. Surely the world moves and we will all be grateful.

* * *

A PROMISING ENTERPRISE.

I was very glad to learn that Dr. L. O. Howard is now in Europe in quest of enemies of the Gypsy moth. As we all know, this moth was introduced into this country from Europe nearly forty years ago. It is not only a vegetable feeder in common with all moths and butterflies, but, unlike most species, it is an indiscriminate feeder, like the cottony cushion scale, caring little on what variety of plant it feeds. Thus it became in twenty years from the time of its introduction a most threatening pest. Over a million dollars have already been spent in the attempt to eradicate it. I doubt if it will ever be possible to eradicate any insect after it becomes once well established, especially such a promiscuous feeder as this. I believe that the Colorado potato beetle was exterminated in Germany, but this was just as it had commenced its work and was the result of the very thorough work so characteristic of Germans. After California's wondrous success with the Vedalia, it would seem that the first effort of Massachusetts would have been to import the enemies which hold the Gypsy moth down in its native habitat. At last, this course has been decided upon. The last legislature of Massachusetts appropriated $30,000 to be expended in this work. I hope and believe that this will be more effective than the million already expended. May not the government learn from Massachusetts? She appropriated the paltry sum of $2500 for such work during the last Congress.

* * *

THE SECRETARY OF AGRICULTURE.

I promised in my last to say a word more regarding the unkind reports concerning the Agricultural Department. I doubt if a more unselfish, earnest body of workers exists, than is now to be found in the various bureaus of our Department of Agriculture. I myself, still feel grateful to Dr. Moore for his splendid discovery and to Dr. Salmon for his long and valuable service, and I doubt if they have done anything that they believed wrong or disloyal to the government or the department. There may be a very few cases of venial or dishonest practice. I find that nearly all the workers here—grand men—who are entirely above selffish acts or dishonest practice are very slow to believe these rumors. We may all rest assured that Secretary Wilson will probe matters to the very bottom, and that justice will be fully done. In the meantime let us defer judgment.

GREEN MANURING.

There will be more planting of field peas for green manuring this year than ever before. There will also be used some lupins and vetches, but less of these, owing to the inability to obtain seed.

Some are already getting the ground into condition, but more are waiting for next month, which is generally considered the best time for planting. As to the peas, there are two varieties usually preferred, the Canadian White and the Prussian Blue, sometimes call the blue field pea. As near as we can learn the Canadian Field Marrowfat is nothing more nor less than the blue field pea. Of the two varieties there seems to be but slight preference, though some orchardists say that if they could secure the Canadian-grown white pea they would prefer it. It is claimed the Canadian grown seed furnishes a heavier growth than the California grown.

TOOLS

The name Keen Kutter eliminates *all* uncertainty in tool buying. As this brand covers a complete line of tools, all you need remember in buying a tool of any kind is the one name Keen Kutter. Keen Kutter Tools are without reserve or qualification the best tools that money, brains and skill can produce. No matter how much you pay, no matter who you may have thought to be the best maker of a particular kind of tool, you cannot get any tool, anywhere, better than those sold under the name of Keen Kutter. If your dealer doesn't keep Keen Kutter tools write us and learn where to get them.

KEEN KUTTER

Tools received the Grand Prize at the St. Louis Exposition—the only such award ever given a complete line of tools.

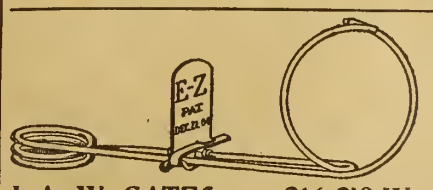
Some kinds of Keen Kutter Tools
Chisels, Knives of all kinds, Hair Clippers, Scissors, Shears, Adzes, Axes, Brush Hooks, Choppers, Corn Knives, Cleavers, Hay Knives, Scythes, Saws, Horse Shears, Tool Cabinets, Etc.

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK MO.

"The Recollection of Quality Remains Long After the Price is Forgotten."
Trade Mark Registered.

Send for Tool Booklet.

SIMMONS HARDWARE COMPANY St. Louis, Mo. 298 Broadway, N. Y.



Ask Your Dealer
for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

HYBRIDIZING THE LENOIR AS A RESISTANT ROOT.

At the recent meeting of the California Viticultural Club, Newton B. Pierce, pathologist in charge of the Plant Improvement Gardens at Santa Ana, furnished a paper on the California vine disease, from which we quote the following:

Few Vitis vinifera varieties of grapes are able to withstand the epidemic development of the California vine disease. The hardiest of the European types usually die of the disease, sooner or later, when situated in the midst of an infected district. The exeeptions to these statements are few, and in most cases are more apparent than real—i. e., a vine or variety showing much hardiness in one situation may clearly show its susceptibility under different circumstances.

Among the whole list of cultivated grape varieties thus far studied when subjected to the influence of this disease in its epidemic form, the Lenoir grape is most resistant. It is so hardy in the face of the malady that it forms, in conjunction with its blood relatives, a class by itself. The work of the United States Department of Agriculture has demonstrated this beyond a reasonable doubt. Vineyards eight, sixteen and twenty-three years old of the Lenoir grape are now bearing eight tons of fruit to the acre in the midst of the earliest infected district in the State, and where the surrounding vineyards, tens of thousands of acres in extent, have long since perished.

Hundreds of acres of grafting experiments with Lenoir roots have been instituted, largely through the aid of growers, and these experiments have shown that the Lenoir root will materially prolong the life of a tender top variety, though not making such top immune. The reason for the lack of perfect immunity in the top is evident from the fact that the California vine disease affects all parts of a vine, not simply the root system, as with phylloxera. In grafting a tender top on a Lenoir root the vineyardist produces, approximately, a plant representing in resistance the sum of the percentage of hardiness of the root and top varieties divided by two—or practically one-half the total percentage of resistance of the two varieties united in the new plant as determined when they are growing on their own roots. It is, hence, apparent that the top to be used in all grafting work looking to the extending of the life of the vine in the presence of this disease should be of that variety having the highest degree of resistance to the disease, and which possesses the desired qualities of fruit and yield.

In view of the scarcity of such hardy and otherwise satisfactory types, the writer has been hybridizing—and will continue to hybridize—the Lenoir with all classes of wine, table and other varieties and species of grapes. The object of this work is to develop, by breeding, an entirely new family of grape varieties, each of which will inherit hardiness through direct blood relationship with the Lenoir. Hundreds of these hybrids are now growing at the Plant Improvement Gardens of the Department, at Santa Ana, Cal., and this line of work is being expanded as rapidly as time, means and the maturing of seedling plants and grafts will permit.

THE 1903 RAISIN STATEMENT.

"The long delayed statement of the 1903 raisin crop is now in the hands of the members of the California Raisin Growers' Association," says the Fresno Republican. "As will be recalled, an advance of 3 cents was made to growers in the early stages of the marketing season, but the market failed, the goods did not move, and the result was that some of the growers received less than 3 cents and others obtained nothing at all. The association in order to keep the advances up borrowed half a million dollars on the crop as security and growers who did not receive their advance borrowed more from the banks, giving their personal notes. The statement issued deals entirely with the grower in his relation to the assoeiation and not to the bank.

The net price per pound brought by the crop is computed on each grade of raisins delivered by each grower, according to the pack-out records. Whether he was underpaid or overpaid appears on the statement. Those who were overpaid are asked to return to the association the amount of the excess advance, while those who did not receive the amount they are entitled to have the satisfaction of knowing it's coming. Final settlement, however, depends upon the termination of litigation now in the courts. The statement is prepared upon the assumption that the association will be successful in the two suits recently tried, that of Chaddock & Co., and the Co-operatives. In the latter case Judge Church, while formally withholding judgment to admit the filing of briefs, indicated in positive terms what his decision would be.

It is difficult to state what the year's price per pound for an average crop was, for the reason that crops differ so greatly in the proportion of high grade goods, but as fair an estimation as can be made is between 2.4 and 2.5 cents.

Quite a number of the growers who have received their statements called at the office and returned the over advance. It is not expected that it will be necessary to resort to many suits, but no doubt some actions to recover will have to be brought. The time is now short, as many of the claims outlaw in September and all of them not later than October."

LAYERING PLANTS.

Carefully layer plants of raspberry, blackberry, currant, gooseberry, grapes or strawberry each year and thus have new ones without buying. By layering only from strong, healthy plants a high standard will be maintained. After plants are done bearing, pick out the finest lower branches from bushes that have produced well, press to ground and throw over a shovelful of dirt a few inches from end of plant. When plant is rooted, loosen from parent stem and it will be ready to set out in the spring.—Sueeessful Farminf.

BEES FOR SALE

I wish to sell my apiary consisting of 43 colonies of bees in A 1 condition. 100 L. hives, 120 supers, 85 shipping cases, tanks extractor, etc. Will sell cheap for cash.

W. J. Wright, Pasadena, Cal.

Lime Your Lands

LIME, $2 50 PER TON

Time to buy. For particulars write
Home Phone 1066 H. B. MATTHEWS. RIVERSIDE, CAL.
NOTE—Business solicited ONLY between Los Angeles and Redlands and Riverside.

When writing advertisers mention Cultivator.

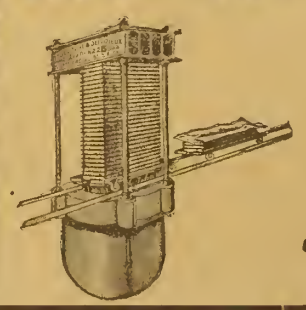
Wanted--Peach Pits

Seedlings preferred State price per hundred pounds.

Box 168, Redondo, Cal.

When writing advertisers mention Cultivator.

WINE AND OIL MACHINERY



A SPECIALTY

Presses for All Purposes.
Complete Plants Fitted Out.

TOULOUSE & DELORIEUX

618 Commercial St. San Francisco

Catalogue Upon Application

When writing advertisers mention Cultivator.

STUDEBAKER FRUIT WAGON

STUDEBAKER WAGONS

ARE STANDARD THE WORLD OVER

When quality is the consideration there is only ***one selection.*** Studebaker wagons stand upon a reputation established by quality. They are not only the best, but they are sold at a price which is within the reach of every purchaser. Studebaker wagons are made by ***experienced artisans.*** They are built upon the most improved lines with the latest and best machinery. Everything is ***first-class*** from tongue to tail board. You will make no mistake by purchasing a ***Studebaker,*** but you will likely make a mistake if you buy any other kind of a buggy or wagon. We have a ***complete line*** and would be glad to send you our catalogue to show you what we carry in stock. A ***Studebaker*** will always give you ***entire satisfaction*** and meet every demand made upon it. We are the local agents.

Newell Mathews Co. 200-202 North Los Angeles Street Los Angeles, California

When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

TREATMENT OF BLACK SCALE.

There are different methods of treatment for the control and destruction of black scale and each of these different methods have their advocates.

It is not for the citrus department of the Cultivator to advocate any particular method, but to state the facts as we know them and leave each individual grower to choose his method of treatment. The writer favors the method that will give the best results, regardless of expense, and the grounds for this belief are based on the fact that it pays to protect the citrus tree from the insect enemies that prey upon it. Whatever method is adopted the orchardist should see to it that it is thorough and effective. To treat an orchard by any given method and leave a good stock of scale as a continual draft on the resources of the tree is, in my belief, a mistake and will result in financial loss to the grower. In a former article I made a statement of how the black scale injures the citrus tree and its fruit, and to give force to the claim that it pays to thoroughly clean the tree from black scale I again repeat the substance of that statement. The injury is from loss of the elaborated sap of the tree diverted to the support of the scale, the heavy coating of smut which covers the leaves interferes with the trees' function of digestion. The smut which covers the fruit prevents the proper coloring of the fruit, the draft on the tree often reduces the set of fruit and lowers its quality. Smut on the fruit makes washing necessary and adds to the expense of production and produces loss from additional decay, due to additional handling of the fruit and possible increase of moisture of the packed fruit. In other words the scale reduces the quantity of fruit, lowers its quality, increases the chance of decay, and adds the expense of washing. Money expended for ineffective treatment is money thrown away. Whether we spray or fumigate, the object is to effectually destroy the scale and clean the tree.

* * *

SPRAYING.

The old rosin wash is the most effective spray for black scale and is to be advised for use in cleaning up citrus nursery stock, but in orchard work it sometimes spots the fruit and is expensive. Distillate emulsion comes next for effectiveness, but frequently spots the fruit and is but little used. Distillate mechanical mixture comes next in the list and has been strongly recommended because of its cheapness and because it can be used for both the red spider and black scale at the same time. I have seen a great deal of poor work done with this spray and I have noted some good work. I do not mean by good work that it was equal to the best work by fumigation, but that it reduced the scale to a point where they would do but little injury to the tree and the fruit did not require washing. Spraying does not destroy all the scale and with fair work leaves enough scale to mature that will next year fully retsock the tree.

Poor work is in part due to the following causes: Scale not being in condition to treat; to weak mixture and a hurried, careless application.

* * *

Condition of Scale.—All the young scale should be hatched and out from under the shell of the old scale and the earlier hatch of scale should not be too far advanced towards maturity. The right time for the treatment of the scale of an orchard does not last for any great length of time and where a single sprayer is run for three months or more a portion of the work is done when a part of the scale is out of condition and of course are not destroyed. For good work there should be a pretty even hatch of scale. On young, vigorous growing trees we very frequently have an uneven hatch, and it is impossible to treat the scale when they are all in condition to have good work done.

The orchardist should be well enough posted to know when the work should be done, otherwise he may be deceived by an unscrupulous sprayer. Some have advised the growers to cooperate and buy a machine and do their own spraying. This is not always a success. First, because too large an acreage is taken in; second, incompetent help are employed to run the sprayer.

* * *

Location of the Scale.—When the scale first hatch they not only locate on the wood, but in large numbers on the leaves, usually on each side of the rib of the leaf and on the upper side of the leaf. The young scale have the power of locomotion until well grown and eventually move from the leaf to the young wood. On an orange tree of some age the scale permanently locates on the new wood on the outside of the tree and prefer the under side of the twig or limb. A greater part of the scale are usually found when fully grown on the under side of the limb. In spraying a tree with a close, thick top and heavy foliage, the spray should be brought to bear with full force on the under side of every limb and twig. There should be no hurrying and plenty of material should be used. Every inch of leaves and wood should be thoroughly soaked. With a spray of sufficient force the oil will be driven against the surface of leaf and wood and will stick fast. The amount of oil accumulating on the surface of the leaves and wood will depend upon the time of duration in spraying. Poor results are in many instances probably due to hurried, careless work.

* * *

STRENGTH OF MIXTURE.

On orange trees from 2 to 2½ per cent of distillate is used, depending on condition of tree. The tree should not be sprayed when suffering for water. Irrigation should precede spraying by a few days in order that the leaf cells shall be filled full of water and be better able to resist the effects of the distillate. For killing of the scale 2½ per cent of distillate will do the best work. Quite a number of our growers use 2¼ per cent on orange trees.

Lemon trees will stand a stronger mixture than the orange. If in good condition, at least three per cent of distillate. Turpentine is used by some of our sprayers, one quart to every hundred gallons of distillate and water mixture. Cool weather is preferable to hot. Cloudy days, which are so rare here in California, are ideal for spraying.

INJURY TO TREE.

With mechanical mixture there is but little chance of injury to the fruit. If the mixture is too strong or the tree out of condition, its effect upon the tree is to drop some of the leaves, usually the older leaves, and kill the inner wood of the tree. In both cases the enfeebled condition of the older leaves and the wood on the inside of the tree, the result of age, makes them less able to resist the effects of the distilliate than the younger and more vigorous wood and foliage.

* * *

FUMIGATION.

In fumigating for black scale we must have all the young scale out from under the shell of the old scale. With proper fumigation scale well advanced to maturity can be destroyed. The conditions of the contract with fumigator should be, inspection of work by the horticultural commission, the grower to pay for the cyanide used and the labor item of so much per tree be made a separate charge.

Equal proportions of cyanide and acid should be used with the proportion of water, four to one, and the tents should be left on the trees one hour.

With this proportion of water there should be an increased amount of cyanide used to secure the proper density of gas, as the increased amount of water causes a slower generation of the gas. The old way of using a smaller amount of water caused a quick generation of the gas and with a heavy dose, burned the tender foliage of the tree. Fumigation of trees when wet with dew will be very likely to injure foliage and fruit, as the water absorbs a large quantity of gas and when so charged will injure the foliage and fruit with which it comes in contact. In experimental work by members of the Los Angeles County Horticultural Commission a double dose has been used, with the proportions of water, four to one, without injury to fruit or tree. This is not to say that we recommend a double dose for ordinary work, as the condition of the tree has a great deal to do with the success of such an experiment. For black scale alone, when not too far advanced, an extreme dose is not required to kill the scale. Success with fumigation depends upon the ability of the fumigator to rightly estimate the amount of material per tree, and careful, conscientious weighing out of the material, according to the schedule, and the giving of the right proportion of water. At the present time in connection with the scutelista which has destroyed the late scale, fumigation should make perfectly clean work of the black scale that will last for two years. Fumigation has no effect on the red spider, but is beneficial in destroying the scattering specimens of red, yellow and greedy scale that have gained a foothold in some of our orchards. This latter fact alone makes it advisable to at least occasionally fumigate the citrus orchard, in order to exterminate these species of scale.

* * *

COST OF FUMIGATION.

On an ordinary sized tree the cost of fumigation is double that of spraying. In order to compete with the cheaper method of spraying some of our fumigators are inclined to cut down the quantity of material used and the time of covering the trees. This has resulted in poor and unsatisfactory work. If fumigation is to be done at all it should be well done so as to last at least two years. As fumigation will not kill the red spider, the latter, if present in the orchard, will have to be given a separate treatment of suiphur or distillate. A single spraying of distillate will not always catch the black scale and spider in the right stage for effective treatment for both insects and in this case two treatments will be necessary.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

When writing advertisers mention Cultivator.

Peas 500,000 Pounds Two Hundred and Fifty Tons Peas

Nitro Culture doubles your croo. Every purchaser of one carload of peas may secure Nitro Cul ure Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Hoegee's HAVE THE GOODS

Khaki Suits for Comfort
Laced Boots for Hard Wear
Tents for Wise People

Hoegee's Canvas Irrigating Hose
Saves the Water—Wears Well—Costs Little

NEW CATALOGUE GUNS AND AMMUNITION
Send For It

OTHERS—Outing, Tent, Athletic, Fishing

The Wm. H. Hoegee Co.
Incorporated

Phones—Exchanges 87 138-142 So. Main St., Los Angeles

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

LEAF MOLD.

Nothing that can be added to garden soils contains so much that is desirable as does leaf mold. Not only does it contain the most valuable plant foods, but it will do more to ameliorate the conditions of soils either too heavy or too sandy, than all else that could be added and is never injurious to any soil, being in every case exceedingly beneficial.

In the cities leaf mold costs at least five dollars per load, and a poor quality at that. Every garden fairly cries for it, yet no one may have all he wishes except the farmer. There is no reason why the farmer with such material, and plenty of other natural fertilizers at command, may not have better success in the garden than those in cities or towns. Leaf mold does more to relieve the gardener from excessive irrigation and cultivation than any other factor; during the summer months, when it is light in weight, every farmer should put a few loads into his garden.

* * *

THE WINDMILL PALM.

As we go north in our very lengthy State, the palms gradually disappear and in some parts none can be found. We fear that the reason for this lies in the general belief that palms can be grown only in the most favored parts of California. The truth is that we have several palms that will not only grow in the coldest parts of this State, but will stand snow and freezing. The Wine or Honey palm (Jubea spectabilis) is the most southerly in range of all American palms, and is, therefore, very hardy.

The dwarf fan palm (Chamaerops humilis) of Europe, is another for snow-clad lands and the palmetto of the Southern States is equally hardy.

One of the most satisfactory palms for all sections of the Pacific Coast is the one we illustrate. It grows in the south of England and Ireland, where they often have freezing weather, with plenty of sleet and snow. Even in colder regions, where the leaves have been frozen off each winter, this palm has attained considerable size and age. All throughout our State it seems to be perfectly at home and will stand more ill usage from man, animals and the elements than any other. Those in the far north or in mountain regions subject to severe winter weather, will find any of the four plants mentioned worthy of a trial, with the assurance that they will stand any California climate.

TRANSPLANTING LARGE TREES.

It sometimes becomes necessary to remove large trees that have been planted for many years, and which are too valuable to destroy while it is possible to utilize them elsewhere. In such cases they can be moved with safety if the work is carefuliy undertaken.

The autumn is the best season for transplanting (about September 1) and work should be commenced by digging a trench 3 feet to 4 feet from the stem of the tree to be moved, going down deep enough to ensure all the main roots being cut off. Whether the ball should be made round or square is entirely a matter of convenience in handling, but a round ball is usually much more convenient, unless transplanting box is used, besides being easier to cut out. When the depth of the main roots has been reached, a small pick with a short handle should be used to cut underneath the ball, cutting through all tap roots, and keeping the lower part of the ball as level and as firm as possible.

If the tree is found to have a good many fibrous roots and comparatively few main roots, and the soil is "heavy," it may be moved at once, for which purpose a few rollers, 3 inches or 4 inches in diameter, and some stout planks and ropes are necessary. A slope should be dug in the direction

The Windmill Palm.

the tree is to go, and planks laid down it, care being taken to get a couple of planks right under the ball, and on these latter two rollers should be put. On the rollers place pieces of board sufficiently wide to take the greater part of the ball, and projecting a little way beyond it. A mat or piece of canvas should be tied around the ball and some short pieces of board over it to take the rope, the ball "canted" over, and the tree pulled out. If the tree is found to have few fibres and a great many large roots, or the soil of a sandy nature, it will be practically impossible to move it with any soil attached unless boxed. In such a case it may be filled in again and left for a year, or even two, during which time, through the cutting of the main roots, many small fibrous roots will be formed, and it can be removed with greater safety.

When planting a tree that has been moved, the ball should be carefully measured, and a hole dug large enough to take it, while allowing 18 inches to spare all round. One side should be cut away to allow the tree to be run in. When in position fill in the soil to about two-thirds, or a little more, of the top, and make it very firm. The remainder of the hole should be filled with water, and left for two or three days to settle; then it should be filled with good soil, and the tree made secure by guy ropes or wires if top heavy or very tall.

THINNING TREES.

Of course, there should seldom occur the necessity for thinning out trees. The future growth of trees should be considered when rows or groups are planted, and each individual tree be given space for future development. On the other hand, it must be admitted there are cases where quick results are desirable. For instance, an old man—or a middle-aged one—does not always feel so responsible for the future as to plant trees in a manner to give the desired results only after his death, perhaps he would say, "Let the future generation thin them out."

Whatever the reason for close-planting originally cases will continually arise where trees are found injuring one another, or nearly so, and decisive steps must be taken to correct the trouble. We recall the sight of a really magnificent avenue of trees which are being gradually made worthless. They long since grew into each other, and by excluding light and air from the lower branches, they have become tall and spindling, the side branches dying and ravaging the health of the trees generally. There is no hope for them now, for by cutting down every alternate tree, only old wrecks are left that would never regain symmetry. These trees were set at a fairly good distance apart, but should have been thinned out long before the question was raised.

For general street and avenue planting, 25 feet is the distance usually allowed, with trifling variations depending on the character of the tree. Occasionally 30 feet is allowed, and some rapid growing tree, like the poplar or silver maple, is temporarily planted alternately with the permanent ones, making trees every 15 feet. In the course of time, the commoner temporary trees are removed.

Then there are occasionally uncalled for thinnings on large places. Beautiful strips of natural woodland will be denuded of all underbrush and small trees and large trees taken out at regular intervals. The beautiful natives are rooted out because they are not shapely and all wild flowers are leveled. Where nature is, let her reign, unless cause for a change is very evident. If a little thinning be necessary, let it be the best and most permanent that remain; and the more natural appearing, the more peace-giving and charming generally.

HAVE YOUR WAY.

It is best for us to be slow to criticise those whose taste in garden display does not agree with us, remembering that "there is no disputing about taste," and that each has a perfect right to his own, and those who disfigure their lawns in any way probably take as much pleasure in the disfigurement as do others take displeasure. One best enjoys a twilight rest in a rustic seat, another can find rest just as refreshing upon a bench made of an old drygoods box. If we all wanted the same thing there would be more quarrelsomeness in the world than there is now.

MELON PEACH.

One of the Cultivator subscribers at Mecca sends us the following account of a new variety of cucumber which he says has been successfully grown under desert conditions:

"Did you ever eat a melon peach? No; what is it? It is a fruit growing on a vine and much resembles a mock orange. Out of curiosity some seed was purchased from a Philadelphia seed man and planted in the garden. As a curiosity it was satisfying, but for culinary uses it did not seem available. It is a fact that cucumbers can not be successfully grown everywhere on the Colorado desert. One man may raise them successfully, while all his neighbors make a failure. Cutting one open it looked very much like a cucumber, and a taste did not belie the eye; forthwith several were sliced and an experiment made, result was that the melon peach filled all requirements for a cucumber salad. Why it has been named melon peach is hard to say, as it neither tastes nor looks like a peach. The fruit thrives well in the heat and salty soil. It is very prolific and sets fruit all through the summer. It is about the size of a Mediterranean orange, and can be eaten either yellow or green. From appearances it is a hybrid cucumber fertilized with canteloupe pollen. The canteloupe blood in the melon peach makes it at home in the Coachella valley.

But the melon peach is not the only curcubit that can be substituted for the cucumber. Recently a gentleman related to me that he ate dinner at the home of a rancher near Mecca. After the viands had been disposed of, the host asked him how he liked the cucumbers. He declared he had never eaten finer. To his astonishment he was told that he had eaten canteloupe salad. The canteloupes should be green and before they show much netting. Those who sigh for the cooling cucumber and have it not, should make a trial of either the melon peach or canteloupe for salads, and it will eliminate all yearning for that vegetable. The season for canteloupes is short, but the melon peach fills the interim between late and early fruit.

It is not those who are always telling about their troubles who suffer most.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.
When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

THE 1905 GRAIN CROP.

Reports from all parts of the country, especially through the great grain producing section of the Mississippi valley show that the cereal production of the United States this year will about equal that of the record year of 1902. On the basis of the government report, the production of all grains will be about 4,344,000,000 or 6,000,000 less than that official yields for 1902.

From present reports on the corn crop, it will be a record breaker. The government figures place it at 2,595,000,000 bushels, of which 1,684,000,000 bushels are in the surplus States, showing an increase in the latter sections of 246,000,000 bushels over last year. This latter estimate may be cut down, owing to hot and dry conditions in parts of Iowa. Nebraska, Kansas and northeastern Missouri.

Reports from winter wheat sections show yields averaging two bushels more than last year. In parts of Michigan, forty bushels to the acre have been made and the average for that State will go about nineteen bushels. Nebraska has the banner yield of the country, averaging 20.4 bushels. This gives that State 48,000,000 bushels of wheat. In Kansas the yield is only a fraction under fourteen bushels. Oklahoma has the lightest yield per acre in any year, being 8.2 bushels.

A good crop of oats has been assured, the yield being about 900,000,000 bushels.

Barley is about an average crop. The crop of flax in the northwest will be large, while the outlook for buckwheat is above that of last year.

THE AGRICULTURAL PRESS.

J. Lewis Draper, secretary of the National Agricultural Press League in the August 16th issue of the Printer's Ink, says:

"There were in the United States, at the time of the last decennial census, 5,739,657 farms, representing a total fixed investment of $20,514,001,838, and directly supporting close to half of the productive workers of the nation.

Of course it is trite to say that agriculture is the basis of our prosperity; nevertheless, it seems difficult for the average man of affairs to realize what a large percentage of the money he handles comes from the rural population. Agricultural and live stock products aggregate in value approximately four billion dollars.

To reach these six billion homes and that four billion dollars ought to be a matter of concern to every manufacturer of a legitimate commodity of life.

Fortunately for the manufacturer and the merchant there is a means of easy and convenient access to these minds and pures.

Rowell's American Newspaper directory for 1905 lists, under the headings of agricultural, live stock and dairy publications, 419 papers, with an aggregate circulation of probably over 6,000,000 copies."

In the California list the Cultivator is the only paper given credit for a circulation exceeding 10,000 copies. That the Cultivator has the circulation credited to it, we are prepared to prove to any advertiser at any time.

TO KILL MORNING GLORY.

It will be recalled that the Cultivator has given many remedies for killing morning glory, the best of which, that of the use of salt solution, given some months ago. We now note another remedy, recommended by Major Charles P. Braslau, of the Braslau Seed Co., Santa Clara Valley.

The remedy as given in the Mercury looks good, can not be very expensive, and we believe will be very effective. It is as follows:

"There is a very simple remedy, which every farmer, every orchardist, every holder of land, whether in small holdings of a few acres, or in large ranches, ought to know and to use. It is this: Where you have a patch of morning glories, roll or flatten the spot out as flat as possible with either a roller or a board; then lay tar paper, such as is used in building, over the whole patch, pressing it down flat and close, and put some earth on top of it all around the edges, to exclude the air and the light.

"Every plant needs four elements for its growth, as a rule, earth, water, air and light. If you shut out the air and the light from a plant it will die, and so if you keep out the air and light from the morning glories, leaving the tar paper on for six weeks, at the end of that time your plants will be dead and the roots will be dead also."

FRUIT CONDITIONS IN EUROPE.

From special consular reports of fruit conditions in Europe, the following will be found of interest:

The Spanish almond crop in the district of Alicante is reported poor. While the crop will be of fair size, the kernels are very small and poor. This district shipped to the U. S. last year 409 tons of almonds, valued at $162,244.

The summer lemon crop at Messina, Sicily, is about one-fourth less than last year, and the quality better. The almond crop promises to be of good quality, with prices quoted for October delivery at $28 per 224 lbs.

The report from Castallammau di Stabia, Italy, states that the lemon crop is almost a total failure. The output will be under 10,000 boxes and prices expected to be $3.00 per box f. o. b. The walnut crop in this district will be about one and a half times that of last year.

The lemon crop in the Palermo, Italy, district, is good, while the output will not be as large as last year by a third. Prices are high.

According to a report prepared by the Budapest firm of Albert Marko, the outlook for the new crop of prunes in Bosnia and Servia is unfavorable, and only one-half of the amount of last year's crop is expected. There will be perhaps 1500 to 2000 carloads (22,046 lbs. each) in Bosnia, and about 2500 carloads in Servia, for sale in case the crop suffers no further damage. While last year the fruit was small, this year it will be large and of better quality. Only weak middle-crops are expected in Hungary and Austria (Bohemia and Moravia).

Advance sales for delivery in October are already being made as follows. Bosnian—110-120, 95-100 and 80-85 grades in equal quantities at crowns 30.75 (say $7.66 per 220.46 lbs., net cash.

Servian—110-120, 95-100 and 80-85 grades in equal quantities at crowns 27.50 to 28 ($5.58 to $5.68 per 220.46 lbs., net cash.

MORE COMPETENT MEN.

While talking with the manager of one of Southern California's largest orange packing houses recently, we asked him as to the extension of the business of the concern and why other houses were not built, and more extended business conducted under the same management. He replied that the reason is simply from the fact that the right kind of men are not to be secured to handle the extra business. We have asked orchardists wherein lies the greatest difficulty in orchard care and fruit gathering, and almost invariably the reply was "lack of competent help." This was commented upon by G. Harold Powell, of the U. S. Department of Agriculture, when here last season investigating causes of orange decay. He ascribed the greatest loss of orange decay to carelessness of the picker in the use of his clippers in picking, and so it follows all the way along the line from the most ordinary routine work to the general management at the head of the business; incompetent or more often, careless, help. Were it not for this, it goes without saying that California would today be receiving far more than she does for her products, especially those of the citrus and deciduous orchards. Always room at the top, is old and trite enough to be relegated to oblivion, but at the same time it applies to the handling of fruit with such force that it should contain much of encouragement and be a stimulus to our young men.

WANTED

To rent on shares or for cash the best sandy sediment cantaloupe and early grape land, located at Brawley, Cal. Will furnish seed or grape vines, land, water and everything except labor. Will rent in any sized tracts for a term of years. Get full information from

Imperial Investment Company
315 H. W. Hellman Bldg. Los Angeles, Cal.

When writing advertisers mention Cultivator.

THE OLD ESTABLISHED

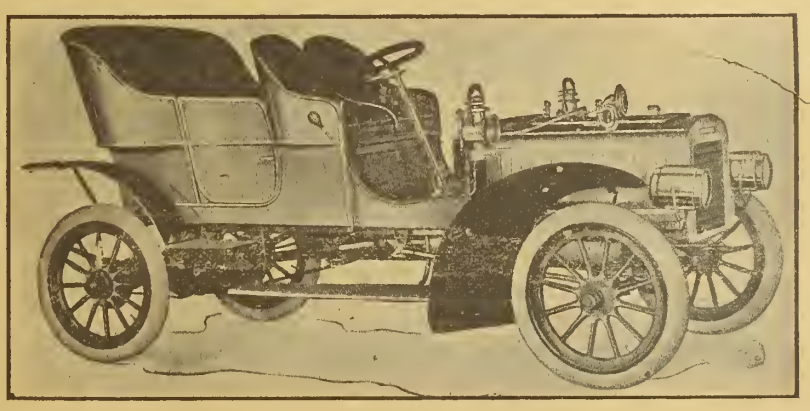
WOODBRIDGE FERTILIZERS

ARE RELIABLE

S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino

When writing advertisers mention Cultivator.

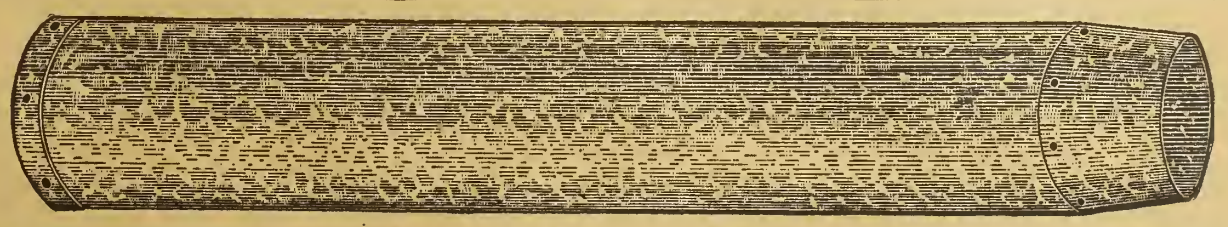
Have You Seen the Moline Cars?



The most beautiful family cars on the market.
Double opposed engine, side door entrance, $1,050.
Four cylinder, side door entrance touring car, $1,700.
Call and see them.

Wm. Gregory, 602 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** *WRITE FOR CATALOGUE*

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 1, 1905

CONTENTS.

	Page.
California Horticulturally	196
Beekeeping for Beginners	197
Promising Enterprise	197
Hybridizing the Lenoir	198
1903 Raisin Prices	198
Treatment Black Scale	199
Floriculture and Gardening	200
Melon Peach	200
General Agriculture	201
Editorial	202
Coast News Notes	203
Dairy and Live Stock	204-205
Veterinary	206
Climate and Crop	206
Dry Feeding (chickens)	207
Poultry Question Box	208
Queries and Suggestions	211
Household	212
Recipes	213
Markets	214-215

Value of Crop Statistics.—It has leaked out that the opponents of Secretary Wilson are making an effort to have a bill introduced in Congress this winter to do away with the collection and tabulation of crop statistics. Stock gamblers are at the bottom of the movement and they are basing their campaign on the scandals which have recently arisen in connection with the official crop reports of the Bureau of Statistics of the Department of Agriculture. It must be admitted that mistakes have been made in this, as in many other government reports, but, on the whole, the system is not to blame. It is the incompetence of the agent whose duty it is to honestly collect and correctly tabulate the statistics relating to the crops of the country. Whatever defects exist in the system can be corrected, but it is only through this means that the country can obtain information of the value of its agricultural productions.

"The entire tendency of the age," says the Iowa Homestead, "is toward the collection of facts and statistics respecting all forms of industry. The United States is not alone in this respect. All civilized countries have bureaus or departments of statistics, and their results are more or less promptly placed at the disposal of the whole world. The data thus gathered constitutes a body of approximately correct and reliable information, available for all through newspapers, magazines, almanacs, books and pamphlets. That this information is, on the whole, exceedingly valuable, there can be no doubt. It may be true that, in isolated cases, it is polluted by grafters or misused by speculators; but its collection and distribution are a part of the world's progress which no country can afford to ignore or neglect."

The fact that crop gamblers are the initiates of the movement to stop the collection and publication of crop statistics is the best possible reason why the system should be maintained. It serves as a bureau of information to the public, regulates prices and acts as a check upon all false reports which interested speculators may be disposed to put in circulation. The Homestead very wisely and, we believe, truly says:

"If the government ceased to collect crop statistics, the markets would be much more at the mercy of the speculators than now; for both the "bulls" and the "bears" would have every inducement to fabricate stories of excessive acreage and favorable crop conditions on the one side and of reduced acreage and crop shortages on the other Such reports are now short lived, because government reports already issued or soon to come protect both the producer and the general public from imposition.

With statistical information constantly being collected by the government, the farmer has at his hand at all times reliable information as to what is being done in his own country and throughout the world in supplying the world's demands. Certainly takes the place of uncertainty and light supersedes darkness. If the reports are tampered with, he has it in his power to correct the evil, whereas, if he depended on private and interested sources of information, he could only complain. Thorough information minimizes the range of price fluctuations and insures the farmer a fairer share of the fruits of his toil and investment. Leave it to the speculators to collect and publish all crop statistics, and fluctuations in prices would be sharper, the speculators' control of the market more complete, and the producer's gains smaller."

It is to be hoped that Congress will turn a deaf ear to the dishonest proposition of the speculators to cease the work of the bureau of crop statistics, but instead, empower the Secretary of Agriculture to widen the range of his investigation, to the end that only the most reliable and best informed agents may be secured to bring this branch of the agricultural department to the highest standard of perfection.

* * *

Danger In Fires.—The season is at hand when the closest attention must be given to fires set by campers and hunters. Last year damage from these sources ran into thousands of dollars in all parts of California. Careless campers leaving fires in the morning destroyed one of the most beautiful canyons around Los Angeles, while in San Diego county hunters destroyed great sections of feeding lands by burning off the dried grass, thus depriving stockmen of range which they needed—besides imperiling the life of stock.

Up in the northern part of the State devastating fires were set by hunters, whose criminal carelessness burned over many hundreds of acres of valuable timber land.

When a camp of hunters is made along a road which borders on dried grass, or timber, the farmer should visit the camp daily to see that no fires are set. If he does not do this, he may lose his grass lands or even his buildings. Experience has shown us that but one rule can be followed in this matter, and that is the rule of everlasting vigilance. See to it that campers put out their fires when they leave a place and if they fail to do so, put them out. So many disastrous fires have occurred from this cause that farmers and stockmen can not exercise too much caution.

We were told by a rancher in Kings county, last week, that his loss from campers' fires has run many thousands of dollars in the past ten years. He said he was powerless to put a stop to camping on his lands because he had no time to follow up the men who come onto his lands and set out the fires which destroyed his property. How he would have saved had he put a man on a horse, provided him with means to extinguish fire and kept him continually riding his lands to see that all fires set were put out. It might have cost him a hundred dollars or so each season to pay the services of a competent man, but he would have saved the thousands which he says he has lost.

We speak of this matter, at this time, because we are on the threshold of the season when danger comes by reason of the carelessness of those who seek pleasure without a thought for the injury they may entail on innocent people.

* * *

A Chance for Federal Pruning.—One of the most serious menaces to the growth and development of California, is the system which permits a few men to tie up and own vast unimproved tracts of land. Under Spanish grants, misappropriated homestead lands, and other questionable methods, half a dozen men are said to have half the State. If they were utilizing it the system would not be so bad, but they are not. These lands which today are unoccupied could support thousands of people. In fact the producing capacity of the State would be nearly doubled if the land were divided into small holdings and settled by active farmers and stockmen. There is one firm of cattlemen residing in San Francisco which is said to own a continuous body of land on which they range their cattle all the way from the Golden Gate to the Bay of San Diego. There are other firms of stockmen who own lands in smaller quantities, but their tens and hundreds of thousands of acres which they do not occupy are kept from those who would settle them and double the wealth of the State. According to an article in Everybody's Magazine, Henry Miller of this State, who came to this country a poor German boy, in 1850, has gathered in township after township, until now, as shown by the testimony in a United States court, his holdings aggregate 22,717½ square miles, or 14,539,200 acres. What those figures mean can be better understood by reflecting that they cover an area three times as large as New Jersey—as large as the combined areas of New Hampshire, Massachusetts, Connecticut and Delaware. Miller appears to have been the most successful of all those who have used the machinery provided by the land laws for acquiring land and barring out the actual settlers for whose benefit, in theory, those laws were enacted..

The same authority from which we quote the above figures, gives further examples of the stupendous graft in the lands of California. Some of these run into hundreds of thousands of acres and include lands which belong to the United States government, which have been literally stolen and fenced in. The government should set a strenuous example to these men by instituting an investigation into the methods employed by them in acquiring these lands.

It is a crime to permit them to go on fencing territory which is not theirs and keeping from actual settlement some of the very best and most productive lands in California. The sooner the Federal authorities purge the country of its land sharks the better it will be for the State.

* * *

Peace Declared.—The Russia-Japanese war is at an end. The world will herald the announcement with acclaims of joy. Peace once more prevails and the world will be spared the horror of the further prosecution of the most devastating carnage of the new century.

While, in a commercial way, this nation has profited by the output of its productions to feed the armies and navies of the contending powers, in a humane sense, in the broad sense of desiring peace and brotherly love to prevail all around the world, the United States rejoices that the end of bloodshed is come.

From a national point of view, the United States can take credit for the culmination of the war. No other President, no Emperor, no King, had the moral courage to throw his personal and individual weight into the vortex of war and demand, in the name of humanity, its cessation. It was left for President Roosevelt alone to cast the die. He took the chance of success or failure in his hands. He has triumphed. The magnificent personality of our American President, fearless of results in the presence of such momentous possibilities, backed by the voice of the whole people and the power of God Almighty, in his demands that right shall come out of wrong and war shall cease, has won the victory. The United States is once more the arbiter of nations, a world power of surpassing greatness and undimmed splendor.

* * *

Calling China Down.—The United States has sent China notice that the boycott upon American goods must be called off or she will be called upon to pay damages for whatever losses are sustained thereby. The Chinese government has shown itself very direlict in dealing with this boycott and the time has come on the part of this government to call a halt to all the foolish business. Just what action China may take in the matter remains to be seen, but it goes without saying that the President has determined to exercise some drastic influence, if he must, to call the yellow man back to his senses. Already the damage to our commercial interests is reported to be severe and to allow the present state of affairs to go on unchecked would be to admit ourselves wrong in the contention which the boycotters make, and also our weakness to defend our rights.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

Walnuts will generally be bleached with sulphur this season, instead of by the chlorine process.

The Crafton Orange Growers Association propose to build a new packing house. unless one can be rented.

Victor Durand has fitted up a winery with a capacity for 25,000 gallons at his place in the Piner district, Sonoma county.

H. F. Thompson, of Orange, is putting up an olive oil plant on the Bixby ranch, with a capacity of 150 tons of olives per day.

Salway and Phillip peaches are ripening in Tulare county and the managers of the canneries are in need of more help to handle the crop.

At the annual meeting of the Irwindale Association last Saturday, it was voted to renew the contract with the A. C. G. Fruit Exchange for another five years.

Over five thousand boxes of peaches are in cold storage at Stockton. It is claimed peaches kept in this way can be held back from the market for three months, if necessary.

Dudley Moulton has returned to San Jose from Riverside with a large lot of scutellista, the parasite that destroys the black scale, which he will colonize in local olive orchards.

The Bellefleur apple trees are so heavily burdened with fruit at Watsonville that it may be necessary to make two or three different pickings in order to let the apples reach size in turn.

The Limonera Co., of Santa Paula, reports the sale of a car of lemons last week which netted them, f. o. b. at home, $2185. The Blanchard ranch, adjoining, also reports the sale of a car of lemons netting $2000.

About $30,000 was distributed last week to members of the Whittier Citrus Association as returns from July shipments of Valencia oranges and lemons. To date for this season the growers have received about $175,000.

The Petaluma Courier says that the average price for prunes at the canneries and dryers is way ahead of that paid last year, being now from $18 to $29 per ton, according to size and locality. The crop is better than was expected earlier in the season.

A correspondent from Toluca states that peaches from that district are being shipped to Los Angeles market, where they bring from $.75 to $1 per twenty-five pound box. Plums bring $.90 to $1.10 per box, growers receiving from $85 to $120 per wagon load.

The annual meeting of the Glendora Citrus Association was held last Saturday. The annual report showed business of the past year had been the largest in the history of the association, the returns on fruit shipped aggregating nearly one-quarter million dollars.

The Porterville Enterprise says that Los Angeles parties have about closed the deal for eighteen thousand acres of land south of Porterville, which they propose cutting up into small tracts for colonization purposes. The soil is claimed to be good for oranges, alfalfa, grain, grapes or deciduous fruits.

Walnuts will be higher priced this year than last. It is thought the association will fix the price at 12½ to 13 cents. The crop will be about one-third short, and buyers are already in the field offering 11 cents and under. The quality of the nuts will be good, but there will be more No. 2 grade than usual.

The San Antonio Fruit Exchange at Pomona recently received an average of $3.40 net per box for nine cars of Valencias. This left $3.08 per box net to the grower. This exchange received also for nine cars of lemons a total of $13,959, or $4.97 per box, to the exchange, making $.05½ per pound net to the grower.

A special rate of eighty-five cents per hundred pounds on green apples in fifteen ton lots, minimum, has just been announced by the Southern Pacific. This rate applies to apples from San Jose, Watsonville and other main line points on the coast division to all Missouri river points. The rates are made that the growers of the Coast may compete with those of the East.

Several of the largest vineyardists at Fresno have sent a petition to the Southern Pacific and Santa Fe railroads asking them to restore the rate of one and a third fares for laborers in gangs of five or more from the Bay region during the fruit season. Owing to the scarcity of Chinese and Japanese laborers in that section, this fall, the vineyardists are threatened with a labor famine and rotting of grapes from want of picking.

The Ventura Press says that apricot pits are in great demand at $7 per ton. The pits are shipped to San Francisco where they are machine cracked, the kernel is extracted and shipped to Germany, where it is made into prussic acid. The pits yield about one hundred and twenty-five pounds to the ton of green fruit. As Ventura raised ten thousand tons of green fruit, the past season, it will be seen that the pit industry is of some value.

Our correspondent, writing from Winters, says that prices on both green and dried fruits have been very good this year and crops fair, which makes times good in that section. Prices are high on grapes but the July hot spell damaged them considerably. A good deal of planting of alfalfa is being done and it will be irrigated by water from the Patah creek, which has been tapped at that point. The new cannery has been very busy and from the work done so far this, its first season, it would look as though it would be a success.

Dispatches last Saturday stated that the California Wine Association had ordered the closing out of the wineries under the control of the association about Fresno. This order affected eight large plants whose annual capacity is estimated at about $7,000,000 worth of wine. The action was claimed to be due to the order recently laid down by the Government requiring the keeping separate of the grapes crushed in making wine and brandy of two kinds. News now comes that the Internal Revenue Department has since changed their ruling and the wineries will operate this season.

AGRICULTURE.

The E. Clement Horst Co. lost three hop kilns and about 35,000 pounds of hops by fire last week.

The Anaheim cannery is running full time in tomatoes and the work will probably continue until cold weather, the crop being large and of excellent quality.

The State Horticultural Commission has liberated three thousand lady bugs in the hop yards in Sonoma county. It is expected that the lady bugs will kill the hop lice.

The hop crop about Ukiah is turning out very much better than expected. In places new hop fields will yield from four hundred to one thousand pounds an acre.

Hop picking will be in full blast in Sonoma county next week. In Mendocino county the Hop Growers' Association has decided to leave the rate for picking the same as it has been for a number of years past. Pickers will receive $1 per hundred pounds for harvesting the blossoms.

Tomatoes are bringing a fair price at Healdsburg this season at the cannery, contracts being signed at $7 per ton. The crop will not be as large as heretofore and almost the entire yield has been contracted for. The Healdsburg Fruit Association will also operate on tomatoes this year for the first time and will put up several hundred tons.

LIVE STOCK.

A creamery is to be built at Sonora, California.

The contract has been let for the equipment of the creamery to be built at Laton, Fresno county.

The Cayucos creamery commenced operations a few days ago, making two hundred pounds of butter the first day.

A party of seven dairymen from Orange county, were looking at lands near Angiola, Tulare county, last week, looking for locations.

The output of eggs and poultry at Petaluma for the past six months, as compared with last year, shows a gain of eggs, 186,293 dozen; and poultry, 1183 dozen.

Owing to the combine of the wool buyers last spring, the wool growers of Ukiah are trying to find some other method of selling their wool than by having a public auction day.

Anthrax among cattle is reported to have broken out in several farms southwest of Napa. A. Callen lost about ten head of cattle and J. Carney has lost eight head of cows. State Veterinarian Kean has placed a strict quarantine and determined effort is being made to stamp out the disease.

Simon Evinger, who has conducted the largest meat packing establishment at Fresno under the name of the Fresno Meat Co., has applied to the United States commissioner to be declared insolvent. His statement of liabilities amounts to $45,000, with assets $1741, but some creditors are secured to the amount of $19,000.

According to the Dairy Review, creameries in Humboldt county paid the following prices for butter fat for the month ending August 15th: Abrahamsen, 24 cents; Capital, 24; Eel River, 24¼; Excelsior, 24¼; Ferndale, 22, 24¼; Grizzly Bluff, 24; Pioneer, 24; Central, 24¼; Riverside, 24; Arcata Consolidated, 23; Petersen & Laurensen, 23½.

MISCELLANEOUS.

The Ukiah fair will be held this year commencing October 3d and ending October 7th.

The deciduous fruit shipments from about Newcastle will amount to nearly twelve hundred carloads for the season.

It is announced that the work of construction on the new electric road from Marysville to Grass Valley and Auburn will begin in October.

Twenty thousand boxes of Humboldt county apples are to be shipped to Australia this fall. This is the first consignment sent from that county to Australia.

The big French-Glenn ranch in Harney county, Oregon, comprising 164,000 acres, has been sold to the Co-operative Christian Federation, consideration, $1,800,000.

The attorney general of California has ruled that the State owns tide lands in Humboldt Bay, between high and low water lines, within two miles of Eureka City.

The Santa Ana Valley Irrigation Co. is preparing to increase its available supply of irrigation water by sinking new wells in the Alvarez tract at Peralta. The wells are expected to be pumping by next spring.

The official forecast of this year's State tax levy, based upon returns from the counties, places the tax rate at $.49 per $100 worth of assessed property. $.02 of this amount is on account of the State University.

It is estimated that four thousand cases of extracted honey will be shipped at Escondido this fall. Each case contains two cans, or one hundred and twenty pounds to the case, aggregating 480,000, or about eighteen carloads.

The largest single shipment of redwood ever made direct to New York and the first to go by the water route, consisting of 1,500,000 feet, is under contract to be loaded at Eureka by the middle of November and delivered in New York by April.

The Santa Paula Chronicle says that W. H. Allen took four hundred colonies of bees into the mountains last March, since which time he has increased his colonies to six hundred and thirty and extracted fifty-three tons of honey, worth five cents per pound.

A schooner loaded with codfish from Alaska arrived at San Francisco last week. The success of the experiment of bringing the codfish to San Francisco for curing it is claimed will develop into an industry as great as the codfisheries of the eastern coast.

The Bay Cities Water Co. has offered to sell to the city of San Francisco its water site, located high up in the Sierra Nevadas, for $9,105,000, and the total cost of transmission, including a distributing system in the city, is to be $38,483,700. By the acquisition of this system the city would be provided with a supply of water large enough for the needs of 3,500,000 people.

C. H. SESSIONS, ASSOCIATE EDITOR

THE DAIRY COW.

Someone has said that a cow "is partly born and partly made." We hear a good deal about feeding and we hear a good deal about breeding, and the advocates of each claim for them about all the virtues that are discoverable. The fact is, however, that it is a combination of the two that will produce the kind of cow we must have. It is the combination of the two that has produced the cow we now have, whether she be good or bad.

A naturally poor dairy cow badly fed will prove continuously unprofitable. A poor dairy cow well fed may yield a small revenue. A good dairy cow badly fed will produce only a little revenue, and it is probable that she will never have her full capacity developed. One of the things that has been brought out by good feed is that many cows that were supposed to be poor cows were simply cows that had been always so poorly fed that they had never had their full capacities developed.

The man that is bright enough to study breeding till he can get a herd of highly-bred cows, and study feeding till he can get every cow to giving milk to her full capacity, is the man that will make money out of his dairy herd.—Farmers' Review.

DAIRY STEERS.

Dairy cows have for centuries been bred and trained for large consumption and assimilation of feed. They are relatively larger feeders and producers than the beef breeds. Loretta D., the champion cow at the St. Louis dairy cow demonstration, consumed daily 25.34 lbs. of digestible matter per 1000 lbs. live weight, while the average capacity of the beef breeds is only about 13 lbs. She yielded 6.69 lbs. of milk solids daily, or 1 lb. to 3.4 lbs. of nutriment consumed. Add to the milk solids yielded the daily gain in weight her daily product during the demonstration was equivalent to a gain in weight of 10 lbs. per day. This shows what wonderful powers of feeding and assimilation have been developed in the high type dairy cow. That she transmits both her feeding capacity and assimilating powers to her male progeny is becoming apparent in feeding experiments with dairy steers.—Iowa Homestead.

THE PACKER'S PROFIT.

Referring to the profit which packers make in slaughtering which might be made by individual farmers, in some cases at least, the Orange Judd Farmer gives the following interesting figures:

"Take a hog weighing at home 200 pounds on a basis of a 5 cent market. live weight. Its value is $10. If fat, the hog loses about 20 per cent, or forty pounds, leaving 160 pounds edible portion. Approximately the dressing will be: Two hams, thirty pounds; two shoulders, twenty-four pounds; four strips bacon, twenty-eight pounds; spareribs, head, feet and backbone, thirty-five pounds; leaving about forty-five pounds for sausage and lard. The meats to be smoked will increase about 10 per cent in weight in the pickle, but lose about the same in smoking, so the selling weight is the same as the dressing weight. The following are conservative prices for a country dressed hog: Thirty pounds ham at 14 cents, $4.20; twenty-eight pounds bacon at 15 cents, $4.20; twenty-four pounds shoulder at 9 cents, $2.16; fifteen pounds lard or sausage at 12½ cents, $5.60; thirty-five pounds backbone, spareribs, etc., at 6 cents, $2.10; scap fat about 25 cents; total, $18.51; cost of hog, $10; profit, $8.51."

Not all of the profit is given in the above, for there are the bristles and the tankage, glue and fertilizer.

HOLDING BACK MILK.

According to Professor Stewart, the following is the explanation why cows sometimes hold up or keep back their milk. The production of milk is due to a nervous action by which the gladular substance of the udder is broken down into milk whenever the cow is influenced by sufficient excitement of the right kind. It depends upon the structure and function of the udder just as much as the sections of other glands do, which we know are wholly subject to a set of nerves controlling this distinct function. The udder is not a mere vessel for holding milk that is supposed to be secereted continually and gathers in the udder, as one may suppose a constant dripping of any fluid would fill any other receptacle. On the contrary, it is a gland, made up of cellular substance, which grows by separation (from the blood) of the matter required. When it has attained maturity, or when the necessary nervous action occurs, it breaks down into a special product—milk.

Several experiments have been made with the udders of cows in milking condition that have been slaughtered, and an examination has been recorded of the udder of a cow accidentally killed on the railroad when going home to be milked, when she would have given the usual ten quarts. The microscope showed the minute globules of the tissue swollen and distended, but the udder contained practically no milk, except a very small quantity that drained from the divided tissue when cut across.

We perceive that this function of the cow is wholly nervous in its action, as, indeed, every other function of the animal is, and if the due nervous excitement is absent, there is no functional action. It is wholly due to the right influence on the nerves that the milk is produced and flows from every ultimate globule of the udder down through all the ducts, small and great, to the teat. Then, if all goes well, and the cow is in her natural, easily excited, nervous condition, as soon as the milker begins to touch

Washed in 1 minute

A Big Difference

One Minute's Washing as compared to at least fifteen. Wouldn't you like to save at least fourteen minutes twice a day? **One minute** with a cloth and brush cleans the absolutely simple Sharples Dairy Tubular Cream Separator bowl shown in the upper picture. It takes fifteen minutes to half an hour with a cloth and something to dig out dents, grooves, corners and holes to clean other bowls—one of which is shown in lower picture.

Count the pieces — notice the difference—and you'll understand why the one who has to do the cleaning prefers the simple Sharples Tubular.

There are other advantages just as much in favor of the Tubular. Write today for catalog V-260—it tells you all about the gain, use, and choice of a separator.

The Sharples Separator Co.
West Chester, Pa.
Toronto, Can. Chicago, Ill.

Washed in 15 to 30 minutes

SUGAR=BEET=PULP

A Cooked "Cow-Breakfast-Food"

TO FARMERS, STOCKMEN, DAIRYMEN:

SUGAR-BEET-PULP, 60c per ton f. o. b. cars or wagon, fresh from factory. Professor Carlyle has demonstrated that 3¾ pounds of sugar-beet-pulp equal 1 pound of alfalfa hay in feeding value; and that 3 pounds of hay equal 1 pound of corn in feeding value. Hundreds of satisfied users have proved it to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

Los Alamitos Sugar Company Los Alamitos, Cal.

When writing advertisers mention Cultivator.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. W. C. Marble, Secretary. J. E. Fishburn

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

FLYO-CURO

Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL
The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON

884 James Flood Bldg., San Francisco

DE LAVAL SEPARATORS

AND OUR LINE OF **DAIRY AND CREAMERY MACHINERY**

are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.

DE LAVAL DAIRY SUPPLY CO.

9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

the teats the cow lets down the milk—that is, she does not exert herself to oppose the action of the nerves of the mammary glands.—American Cultivator.

While brood sows should be kept in a good, thrifty condition, they should not be allowed to become too fat, for, if the mother is over fat the pigs are liable to be small and weakly. Encourage brood sows to exercise by scattering grain on the ground where they will have to hunt for it.

The Rancho Verde Co.

OF

Victorville, California

Will buy thirty (30) head of Milk Cows if price and quality are satisfactory. They must be either Pure Bred Jerseys or Guernseys or high grades of either breeds, not under 3 years or over 6 years of age. None to give less than three gallons per day.

When writing advertisers mention Cultivator.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

When writing advertisers mention Cultivator.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

When writing advertisers mention Cultivator.

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

When writing advertisers mention Cultivator.

C. S. BURGESS

BREEDER OF

REGISTERED JERSEY CATTLE

Jerseys with a record as milk and butter producers

Riverside, California

When writing advertisers mention Cultivator.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams, for sale.

L. Bradbury Duarte, Cal.

When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

When writing advertisers mention Cultivator.

KILLING BEEF.

It is important that an animal intended for slaughter should be kept off feed from twenty-four to thirty-six hours. If on full feed the system is gorged and the blood, loaded with assimilated nutrients, is driven to the extremities of the capilaries. In such condition it is impossible to thoroughly drain out the veins when the animal is bled and a reddish colored, unattractive carcass results. Food in the stomach decomposes very rapidly after slaughter and when the dressing is slow the gases generated often flavor the meat Water should be given freely up to the time of slaughter as it keeps the temperature normal and helps to wash the effete matter out of the system, resulting in a nicely colored carcass. The care of animals previous to slaughter has considerable effect on the keeping qualities of the meat. It is highly important that they are not excited in any way sufficiently to raise the temperature of the body.

Excitement prevents proper drainage of blood vessels and, if extreme, will cause souring of the meat very soon after dressing. In no instance should an animal be killed after a long drive or after a rapid run about the pasture. If heated by such causes it is far better to allow it to rest over night before killing than to risk the meat spoiling. The flesh of an animal that has been overheated is usually a pale color and very often develops a sour or putrid odor within three or four days after being dressed. It is also essential that the animal be carefully handled, so as not to bruise the body. Bruises cause the blood to settle in that portion of the body affected, presenting an uninviting appearance and often cause the loss of a considerable part of the carcass.

A thirty-six hour fast, plenty of water, careful handling and rest before slaughter are all important in securing meat in the best condition for use, either fresh of for curing purposes. When much meat is prepared for use on the farm it will be best to provide such tools as are necessary for the rapid prosecution of the work. A 7-inch curved skinning knife, an 8-inch straight sticking knife, a 14-inch steel, a 28-inch meat saw, a candle-stick scraper and an ax are all the tools really essential to rapid dressing. Some means of raising the carcass up from the ground or floor and a place to hang the lighter animals should be provided. What these arrangements shall be depends largely on the amount of work to be done and the circumstances. A block and tackle with 6-inch pulley will answer the purpose very well when they may be had and a suitable place is at hand for suspending them. Age affects the flavor and texture of the meat to quite an extent. While it is not possible to state the age at which an animal will be best for meat it is a well-known fact that meat from old animals is more likely to be tough than that from young ones. The flesh of very young animals frequently lacks flavor and is watery. An old animal properly fattened and in good health is preferable to a young one in poor condition.—The Ranch.

The number of flies on a farm can be kept in check by keeping all manure carted away to the field, thus removing their breeding grounds. Some day this will appear more important than now.

SHEEP NOTES.

Ewes will not breed well when too fat.

Give the lambs a little milk feed at time of weaning.

Sheep are unharmed by intense dry cold, but cold rains are injurious.

The greatest profit in feeding sheep for mutton is gained while the animals are young.

At no time should sheep be crowded and especially while eating any kind of food.

Wool is that farm product which brings the most money in proportion to what it takes from the farm, and with the least labor to the producer.

Using the improved breeds for crossing means that a larger allowance of food must be given if success is expected.

While the sheep are on a good pasture, cull out the flock, and fatten off all sheep that fall below the proper standard of excellence.

All things considered, a three-year-old ram is best to use in a flock that is being graded up. Age gives strength to the progeny and this is an important item with sheep.

Better sheep will grow more pounds of wool than are now obtained and at the same time grow a carcass improved in the essentials to profitable mutton productions.

Particular attention should be paid to the securing of a thoroughbred ram possessing good qualities, as upon his excellence will depend the future value of the flock and he should be changed every two years to prevent inbreeding.

Sheep will take the place of swine on the dairy farm and dispose of the by-products to as good advantage as pigs, while the difference in the tidiness and sanitary conditions existing with the two classes of animals in many cases can be easily imagined.

LESS FEED WHILE IDLE.

The horse not only requires less feed when idle than when at work, says Andrew Stenson, but is actually injured if the ration is not reduced on days of idleness. Some feeders of high standing reduce the feed of their work horses on Sundays and holidays, in the belief that even one day's feeding of a working ration while the horse is at rest is injurious. It is now the belief of all who have thoroughly studied the subject that idle horses are fed too heavily as a rule. But no fixed ration can be named, since the food requirements of individual horses differ so widely. Close observation will enable the feeder to adapt the quantity to the needs of each animal.

Don't believe all you hear; but be sure to believe all you say.

DOUBLE CAM BRADLEY STEEL HAY PRESS

One horse can operate it. Very easy for two. Send for circular.

Also make POWER PRESSES

Has an AUTOMATIC PLUNGER DRAW.

DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

WANTED:

Dairy and Stock Men to know and realize what the following means. We will give you a three-year lease on from 40 to 160 acres in the Imperial Valley, Southern California, on a share basis. The land is the finest river bottom sediment soil in the world with abundance of irrigation water every day in the year. We will furnish the cows and other stock, buildings and tools and every thing to work with. You to put your experience and labor against our capital. You must show us that you are capable and practical. A splendid opportunity for the right party. Address

Imperial Investment Company

Suite 315, H. W. Hellman Bldg. Los Angeles, Cal.

When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD

DAIRY SHORTHORN BULLS FOR SALE

Admiral Dewey 183493 and King Edward 184393 at head of herd. Address

Fred Fuller & Bro. Imperial, Calif.

Berkshire Hogs Dairy Shorthorn Cattle

I am booking orders for pigs for September delivery. G. A. MURPHY, PERKINS, CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Holsteins For Sale

From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.

MINNEWAWA STOCK FARM, FRESNO, CAL.

When writing advertisers mention Cultivator.

PAXTON'S VETERINARY REMEDIES

for Horses and Cattle. Write for circular.

Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles
Laboratory at La Porte, Ind

When writing advertisers mention Cultivator.

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch

Box 321, Petaluma, Cal

When writing advertisers mention Cultivator.

Vaccinate Now

AGAINST

ANTHRAX

AND

BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory

322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

When writing advertisers mention Cultivator.

DOKE STOCK FOOD COMPANY

MANUFACTURERS OF

DOKE'S STOCK AND EGG FOODS

2810 CENTRAL AVE. - LOS ANGELES

Finest Food on the market for Stock

Best Egg Producer and Keeps Poultry Healthy

Greatest Invigorator known for Thin Horses

ASK YOUR LOCAL DEALER FOR IT

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

POSSIBLY GLANDERS.

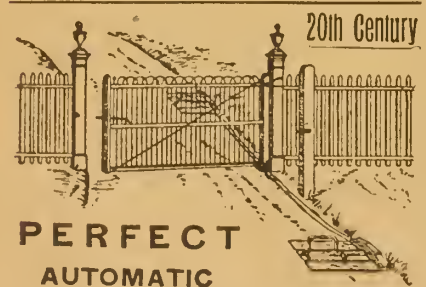
Editor Cultivator: I would like to have you tell me what is the trouble with one of my horses and what to do for her. About six or eight weeks ago I began to notice her throat being puffed up between the jaw bones in the mornings. Not a hard swelling, but soft. After eating and exercising, or working, it all goes down, to be repeated the next morning. She is not a very hearty drinker, but she eats well, but is getting very thin. I grain her and feed good barley hay. I have looked for beards in her mouth, but can see none. She seems to feel well, but is slow; from loss of flesh, I think.—S., Santa Ana.

You didn't state whether the horse has any discharge from the nose. The symptoms you describe are those of glanders in the first stages. You had better call in a qualified veterinary surgeon, and have him make a close examination, and if necessary test him with Mallien. A horse in the condition you describe should not be treated without a thorough examination.

HUGE WYOMING DAM.

(Continued from First Page.)

Simply that the nation has wisely decided to use the money derived from the sale of western public lands to make its desert soil of value and furnish many home-building opportunities. It means that many men will find employment in in the construction of dams and canals in every western community, and that finally as the works are completed, one by one, new farm homes will be established, adding to the nation's wealth and balancing our population now inclined cityward.



PERFECT
AUTOMATIC
GATE. 20 STYLES.

Money Refunded If not satisfactory or as represented. ***Works 365 days each year. NO OILING***—ten minutes each year and 10 to 20 cents expense—***no more.***
Enclose 3c stamp for 68 page catalogue.

The Lloyd Co., Inc.
Petaluma, California

For a thousand years longer this splendid dam site would likely stand idle before private capital would develop it to its magnificent full capacity, for the difficulties in the way of the engineers are many and unknown; but the government will meet all obstacles and overcome them and finally turn over to a thousand farmers a perfect job of engineering, comparable to the great works of the Peruvian Incas, the Egyptian Rameses or the British engineers of India—an enduring monument for all time to the wisdom of the present generation of Americans.

NATIONAL IRRIGATION CONGRESS

The session of the National Irrigation Congress, held at Portland, Oregon, last week, was perhaps one of the best attended, most interesting and possibly stormy meetings ever held.

This session of the congress was important for the pronounced stand assumed on three subjects.

It declared emphatically that its sympathy is with the small land owners against the large landed proprietors who seek to have the national irrigation law so amended as to permit the retention of more than 160 acres of irrigated land.

The congress also expressed the opinion that Government enterprise in the work of reclaiming arid lands should not unnecessarily interfere with previous enterprise, nor private enterprise with prior government projects.

Finally, it expressed disapproval of the repeated attempts to inject the subject of undesirable foreign immigration into its deliberations, contending that this subject is one in which the congress, as a body, is not interested.

Owing to the impracticability of securing the attendance of the delegates in sectional meetings the congress changed its constitution so as to provide that at future assemblages a general session shall be held each day of the convention period.

Gov. Geo. C. Pardee, of California, was re-elected president of the congress, and Boise, Idaho, was chosen as the next place of meeting.

Resolutions.—In substance the resolutions adopted by the congress follow:

Indorsement of Statehood for the Territory of New Mexico and joint Statehood for Oklahoma and Indian Territory. The congress believes that too much capital, public and private, cannot be invested in the reclamation of arid lands, and therefore declares that the Government should not unnecessarily interfere with or prevent private enterprise from building reservoirs and other works for reclaiming arid lands. Another resolution of much the same purport declares that Government as well as private enterprise should both be extended to the utmost, and believes that Government enterprise should not unnecessarily interfere with private enterprise, nor should private enterprise unnecessarily interfere with or prevent Government enterprise from building reservoirs and other works for reclamation of arid lands. In order to encourage beet sugar production in the United States, the congress asserts its opposition to the granting of further concessions to tropicalists, and the resolution advocates Federal legislation in behalf of the industry. It is the opinion of the congress that the national irrigation law should be so extended as to include the State of Texas within its provisions. As confusion is said to exist in the minds of many people on the subject, the congress declares that there is not, nor has there been, any connection between the National Irrigation Congress and the National Irrigation Association.

The congress also favored the early reclamation of small tracts of land whenever the cost per acre of reclamation does not exceed the cost per acre of larger enterprises of similar character. The Federal Congress was urged to enact such laws as will enable the National Government to exercise the right of eminent domain when necessary to carry out the purposes of the national irrigation law. The congress indorsed the effective and business-like administration of the Forestry Bureau, the efficiency of the work of the Reclamation Service, but recommended that the Reclamation Service and its representatives cooperate with State officers in matters affecting the State's landed interests. The resolutions commended the work of the experiment stations of the Department of Agriculture, and the United States Weather Bureau for its assistance to the Reclamation Service.

CLIMATE AND CROP REPORT

The weather and crop conditions for the week ending August 30, are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—Clear and warm weather prevailed most of the week in all parts of the State, with less than the usual amount of fog in the coast districts.

The grain and hay crops are nearly all secured, though in some sections thrashing and baling are not yet completed. The hay crop is the best for several years in nearly all parts of the State, but the grain crop as a whole is quite disappointing and considerably below average. Barley has turned out very well in most sections and wheat is a fair crop in places, though a failure in others. Oats are exceedingly light. Harvest continues on the heavy crop of sugar beets. Beans are rapidly ripening and in some sections the prospects are good for a very large yield. Hops are maturing and picking is in progress; reports as to the yield are conflicting, but a fair crop is probable.

Grape picking is progressing rapidly and raisin making has commenced. The yield of grapes will probably not be as heavy as estimated a few weeks ago, owing to extreme heat in July and a few days of this month, but in many sections the crop will be fully average. Many varieties of table grapes are in the market and they are of excellent quality. The deciduous fruit crop is being rapidly gathered and much of it has been secured. Citrus fruits are in excellent condition, and it is estimated that the orange crop in Southern California this season will be the heaviest ever harvested; large crops are also expected in the Porterville, Oroville and Cloverdale districts. Walnuts, almonds and olives are in good condition; almond picking has commenced.

Eureka Summary.—Foggy mornings along the coast. Continued clear and warm in the interior. Oats are being harvested with good results. Barley is very promising. Worms still doing damage to peas and beets on the bottom lands.

Los Angeles Summary.—The week closed clear and warm, with severe thunderstorms in the San Bernardino mountains and heavy rain. Threshing continues. Sugar beets are being harvested.

Auction Sale

37 Fine Milk Cows, 1 Holstein Bull

AT COMPTON

2 blocks West of Long Beach Electric Line
1 block West of High School Building

Thursday, September 7th, at 10 a. m.

I will sell my entire herd, consisting of 37 head Holsteins and Durhams Except 5 wich are first class Jerseys, and all are as fine milk cows as can be found in the country.

These cows are all large milkers, in good condition, many fresh or coming in soon, and will be sold without reserve or limit, as I am quitting the dairy business, and will make a genuine closing out sale. Buyers in need of first-class cows cannot afford to miss this sale.

Terms: Six months time will be given with note and approved security.

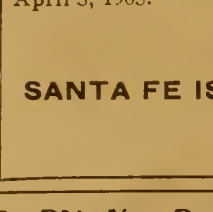
Free Lunch at noon.

MATH LIPPUNER, Owner.

Rhoades, Reed & Rhoades, Auctioneers
Office 730 South Spring St.

The Green-Marshall Co.

Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.



WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

When writing advertisers mention Cultivator.

SUCCESS

GASOLINE AND DISTILLATE

ENGINES

STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON

710 N. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

THE IDEAL TRAIN

The California Limited Log-Book:

I will take pleasure in recommending the "California Limited" to my many Chicago friends. It is an ideal train for the tourist. The dining car service is perfection—employes extremely courteous, and in fact it is a train of "Home Comforts"—strictly high class in every particular.

C. R. STREEPER,
5733 Calumet Ave, Chicago, Ill.
April 5, 1905.

SANTA FE IS THE WAY

U. S. SEPARATORS SOLD BY K. B. NORSWING

MAIN ST. AND SLAUSON AVE., LOS ANGELES

Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

DRY FEEDING.

(2nd Chapter.)

Dr. H. P. Nottage, of Goshen, Mass., describes his new method as "A New, Practical, Labor-Saving, Profit-Earning Method of Feeding." His article would be too long for our columns, so I will give extracts from it.

* * *

What It Is.—By "dry feeding" I understand that no mashes, hot or cold, are fed. This does not rule out dry combinations which have been called "mashes" by some, but which should be called mixtures, for the term "mashes" is understood by the poultryman to be a mixture of several kinds of grain, green stuff and animal food which has been subjected to the action of moisture, and in many cases also to heat. Nor does it rule out chopped or shredded green stuff, such as onions, beets, etc., fed separately. In a broad sense it is the feeding of uncooked food to poultry, and more especially food that has not been moistened. To be practical, let us see what advantages the dry feeding can show.

* * *

Advantages.—The question is by no means settled and it will require long and careful experience by observant poultrymen and scientific experts before it can be demonstrated whether dry feeding should supplant or supplement the wider and better known method of feeding wet mashes in addition to dry grain.

In the meantime, however, some results obtained by dry feeding have forced themselves upon the attention of poultrymen, and the subject is beginning to receive more consideration than formerly.

Each observer should ask himself why he changes his manner of feeding to a method that as yet has only a few strong advocates. Does he expect to get a few more eggs by doing this? Better attempt this by breeding from good layers; for it is not yet proved that dry feeding produces more or fewer eggs. Does the routine work of mixing and cooking the mash take up too much of your time? It is my experience that you can give it up and get just as good results. Do your hens have symptoms of cholera or bowel looseness of a mild degree that makes the dropping-board hard to clean? Come and see the roost platform in my houses, and you will find them always dry and smooth with only an occasional spot.

* * *

The Method.—To understand better the advantages of dry feeding, let us look at the method that I employ in using the grains. The fact that I have gotten rid of mixing and cooking mashes and am now feeding the most of the grain for the greater part of the time from feed boxes, shows how much easier it is to care for a good sized flock of fowls. The advantages are apparent to all who feed their flock four or five times a day, and constantly fuss with them. I have come to be known by the farmers around here as "the man who feeds his hens twice a week," from the fact that during the growing period from the incubator to the pullet who is getting ready to lay, I feed all my grain and beef scraps from feed boxes which I fill up twice a week. Bear in mind that all young stock is on free range and laying birds in yards so large that they seldom wander to the ends of them; also that even this stock is let out to run at large on alternate days.

I would not advise changing suddenly any method of feeding, as it will seriously affect the egg output for a time; but after a while the hens will lay as before. The best way is to begin with the chicks right from the incubator. Looking at the subject of feeding from the beginner's standpoint, I am certainly convinced that fewer mistakes will be made and a larger number of chickens raised to a healthy maturity by feeding dry grains and beef scraps from feed boxes constantly filled, provided the chicks can run upon grass. There will be seen no rushing, trampling crowds of chicks; but a contented and lively set of youngsters that are plump and happy, although on free range where some people think they are likely to run the flesh off their bones; they will find time to dig holes in the dirt, lie under the shade of the trees and enjoy life. He will be surprised at the rapid growth of his stock, if it has any "grow" in it. More of this when we speak of results. Do not get the idea that an experienced poultryman cannot produce like good results with his mashes; for he certainly can. However, let a beginner start with mashes and they will often become "messes" and more chicks will drop out of the race than if he adopts the plan I pursue with mine.

* *

My Plan—Have plenty of grit where the chicks can pick it up for their first meal. Get your miller to mix together one part of wheat to two parts of corn and crack them so they will be a little finer than cracked corn. Place a heap of this in front of the brooder, and beside it a heap of dried beef scraps, with the coarser portion sifted out until the chicks are big enough to eat the scraps as they come to you. If you have any skimmed milk keep the youngsters on that for a drink, or you can let them have their choice between milk and water. If there is not a green sod for them to pull at when they get into their second week, chop up some onions, or lettuce or cabbage, and let them have some once a day. Get them out on the ground as soon as a green blade of grass can be seen pushing up through the old sod.

You can now let them have only this mixture of grain, and the beef scraps from the two compartments of a feed box until the young pullets are ready to go into winter quarters, provided they are upon grass all the time. In this way it is possible to grow good healthy layers and not have to fuss about "balanced rations" and forty different kinds of food.

When the pullets show signs of get-

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.

RANCH FOR SALE
13 acres 12 miles from Los Angeles, near Pacific Electric. Cement ditch and paid for, water 15 cents per hour. For particulars address owner. D. F. CONANT, R. D. 1 RIVERA, CAL.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at 1903 Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 Los Angeles, Cal.
RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.
Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

ting ready to lay, which they should do about September if they are hatched in March, or the first of April, it is high time to get them into the quarters they will occupy during the winter. It is now time to change your manner of feeding somewhat.

Right here let me say that I believe I have learned that it pays to have dried beef scraps constantly before the fowls, summer and winter. You can vary this, if you want to, by feeding green cut bone occasionally, but my hens would just as soon have the scraps. I have seen them nibble delicately at green cut bone, showing that the craving for animal food was fully met by the scraps fed in this way.

* * *

Balanced Rations.—Each hen eats what she wants, and what she wants is usually what she needs. If you put a definite amount of animal food in a mash, some hens will not get enough meat and others will over eat. I am surprised to see how little meat they eat when it is fed in this way, yet it appears to be all they need. Just as soon as insects begin to be scarce the meat box will show it, for the hens balance their rations so far as this is concerned. Last year they laid more eggs for me than when I put the meat in a mash, and at no time have they averaged less. Leave then the beef scraps in the feed box and take out the grain, just noting how much grain your flock is eating every twenty-four hours. Put litter in the pens and feed the same amount of grain at different times during the day in this litter. It is time now to add oats to your bill of fare if you have not already done so.

When freezing weather begins, oats, corn and wheat in alternation are fed in the litter at 4 p. m., and after the fowls are on the roosts for the night. They find this latter feed when they come off the roosts, and I find a big cloud of dust and a lot of active, cackling hens when I open the doors in the morning. At noon they have green food, sugar beets split in halves and a head or two of cabbage thrown into each pen. When the litter is pretty well broken up a forkful of Japanese millet, stalks and all, or clover rowen, or buckwheat is thrown in to replenish the litter.

By this method of feeding from the first day of the chick's existence, you will find that the big chicks and the little ones can run together and all get enough to eat. I don't advocate the mixing of chicks of all sizes, but it is wonderful what grain in a feed box will do to rectify the mistakes of beginners, especially when they let all sizes of chicks run together.

* * *

The Results.—I have noticed that I get more eggs from the same number of birds than when I fed mashes. Some of this may be due to selection in breeding, but I believe that also some of it is due to the fact that my birds have not had a day's check to development. I do not think it is good policy to keep a hen always hungry, but rather to keep her so that while you know she is well fed she will be ready to hunt for more.

Continuous growth, higher average weight, constant laying when through moulting, until she wants to take a rest and then I let her stay broody for a while; vigor of stock, early maturity—these have been the results that have followed me since I adopted this way of feeding. Certainly I have not lost much.

Much less drudgery; hens that are plump, but not baggy; always active in spite of an open feed box; these things also have been noted. As for rapidity of growth, although I have adhered closely to the above program and made no attempt to feed especially for broilers, I nearly always get them to weigh three pounds to the pair in eight weeks.

* * *

We have still to hear from Mr. P. R. Park and Dr. Sanborn of their methods and the results in our chat next week.

(To be continued.)

* * *

EDITOR'S QUESTION BOX.

Kerosene Emulsion.—(W. A. L.): Will you please give the recipe for kersene emulsion for "chicken dip." I have seen it twice in the Cultivator, and the second time was different from the first. I don't want to get it too strong. How do you get it into the feathers on the head?

Answer.—The full directions for dipping chickens and exactly how to make the dip you will find in the Cultivator of July 7th, page 16. If you have mislaid it by writing and sending stamps to the office a copy will be sent to you.

* * *

Apoplexy—(Mrs. F. A. R.): One of my Brown Leghorn hens died very suddenly, apparently from having a fit. Her neck was drawn back very tightly and she died about half an hour after I noticed the first symptom.

The hen was confined in a coop with eleven little chicks two days old, and had been fed wheat, leaves from green corn, and the chicks bread softened with milk, but on making a post mortem examination we found her crop empty—also all the intestines. Plenty of grit in the gizzard, and the hen was quite fat. She seemed to have a high fever and apparently had starved to death, but her chicks were well fed. We are at a loss to know what caused her death and what remedy to use in case another hen should act the same way.

Answer.—Your hen died of apoplexy. Apoplexy may occur from over-heating or sunstroke, overfeeding, over-exertion, fright from being chased. I have seen birds so affected from the bite of a tarantula in Oklahoma. I gave aconite one drop in a teaspoonful of milk with good results. Congestion of the brain has similar symptoms. As treatment apply cold water or ice to the head and give half a teaspoonful of Epsom salts.

* * *

Roup.—(W. W. B.): I am having trouble with my chickens, mostly the Leghorns. As you have helped others, it may be that you can help me. They start in occasionally shaking their heads and at the same time giving a "Wha!" followed by working their tongue as if in the act of swallowing; as the trouble advances there appears to be difficulty in breathing—opening their mouths and extending their necks when breathing. First, I should like to know the cause and then the cure for the trouble. I have examined their throats and can see nothing abnormal. They eat well, but are dumpy. What has become of all the Buff Orpingtons? I do not find any advertisements in the Cultivator, and I want some "new blood" this fall. What is your idea of the Orpingtons as a general purpose fowl?

Answer.—The sypmtoms so far as you describe them are either roup or gape worms. Kill the worst case and hold a post mortem examination. Carefully cut open the windpipe and see if you can find any little worms hanging on to the sides of the wind pipe, then you will know for sure.

In any case you can give the affected birds a two-grain pill of assafoe-

THE JUBILEE POULTRY JOURNAL

A "Worth-while" Journal devoted to the Poultry Industry of the Pacific Coast. A Journal radically different, up-to-date and aggressive, advocating the cause of Better Poultry and More Profit.

Unusual contributions of great value, unusual competitions designed to stimulate, cultivate and educate the poultrymen to reach a greater success,—it is "Worth while," worth YOUR while and you should subscribe.

Write for Announcement and for sample copy, or better still, send your subscription—50c yearly.

Active agents wanted, splendid proposition. Advertising rates on application.

Jubilee Publishing Company
SUNNYVALE, CAL.

When writing advertisers mention Cultivator.

NATURAL HEN Incubators and Brooders

Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 15, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

EGGS WANTED FOR HATCHING
Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.
YOUNG CHICKENS AND TURKEYS WANTED
We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.
BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations
Don't believe all we say, but just enough to buy our Poultry Foods
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.
When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.
When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

tida night and morning, and if it is roup, which I think it is, give in addition the following: Mix two table spoons lard, one of red pepper, one of dry mustard, one of vinegar, add flour till the whole has the consistency of dough. Roll into slugs the size of the top joint of your little finger for adult hens, smaller for young chicks. One or two doses twenty-four hours apart usually effects a cure.

Buff Orpingtons are good general purpose fowls. They lay a brown egg and have white skin, but are excellent table fowls. There are quite a number of Buff Orpington breeders in the country. Watch our advertisements.

* * *

Buff Orpingtons—(Subscriber): Will you please tell me through your paper where I can get Buff Orpington chicks just hatched; also a good plan for hen house? Is it advisable to have them roost and lay in the same house.

Answer.—I am sorry I cannot tell you where you can find Buff Orpingtons just batched at this season, moulting time, but if you watch our advertisements, you will see them at the hatching season.

As for plans of a house, I do not know what kind, what price, for what breed, nor anything about your accommodations, so would not venture an opinion. Fowls should never have their nests inside the roosting house in this climate.

* * *

Insufficient Grit.—(Constant Reader.): Found one little B. Leghorn, a fine layer, suddenly taken very ill, killed her, found half of a large safety pin in her gizzard, piercing it. Found one old White Leghorn drooping and could not stop her passing grain whole. Found half gizzard packed full of a ball of adobe. The other half distended to abnormal size and soft. So goes!

Answer.—Insufficient sharp, hard grit. Your post-mortems have proved beyond doubt what is the matter. Supply your fowls with proper "hen's teeth" without delay or you will lose others.

SCALY LEGS.

From a bulletin of the New Mexico College of Agriculture we note:

Scaly-legs is a trouble which is caused by a mite which burrows underneath the scales of the feet and legs causing an irritation which results in a multiplication of the cells of the epidermis, and, therefore, a much thickened scale. To successfully treat this disease the scales must first be removed so that the medicine can come in contact with the mites. The legs must be soaked in soapy water until the scales are soft, when they may be removed. Dry thoroughly and treat with the following: Balsam of Peru, two drachms to one ounce of vaseline. Mix thoroughly. The disease readily yields to treatment if the first step, that of removing the scales, has been properly done.

SEPARATING POULTRY.

Upon almost all farms it is customary to see the chickens of both sexes running about together, and little attention seems to be paid to the fact that when pullets and cockerels are separated both thrive infinitely better. Of course, keeping them apart may involve a certain amount of work, but any extra labor is well repaid by the improved growth and the better stamina of the chickens of both sexes.

There are several reasons for advocating the separation of the sexes at as early an age as possible, and it will be found that both the cockerels and pullets thrive much better when such a plan is adopted. When they are permitted to remain together the cockerels will worry the pullets a good deal, besides which they will fight among themselves for the mastery of the yard. When cockerels are by themselves they will all live in peace, and little difficulty will be found in keeping large numbers together; but, on the contrary, when there are any pullets present they will fight, frequently causing one another a great amount of harm. Especially is this the case with birds that are to be kept for stock purposes, as should the comb or wattles become damaged or deformed through fighting, it may seriously affect their sale. It is important to separate the sexes immediately they are large enough to be distinguished, because once the cockerels have commenced fighting they will continue doing so, even after they have been taken away from the pullets.—Farm Home.

While crate fattening is producing satisfactory results, and increasing in popularity, the machine method of cramming fowls is growing less popular, even in the European countries where it was practiced extensively a few years ago. We are reliably informed that English market poultry men who tested thoroughly the enforced fattening of fowls by the use of the cramming machine have one by one abandoned it in favor of the more natural method of crate fattening The same is true of Canadian poultry men. The experiments made thus far in this and other countries have not borne out the claims of the cramming process enthusiasts. On the other hand crate fattening can be practiced conveniently and without much additional expense by market poultry men and farmers generally, and as the results seem to be quite satisfactory, we look for a rapid growth in the popularity of this plan of improving the fowl.

This is the time of year when lice get in their deadly work in the poultry yard; more chicks are killed by lice than through all other chicken ailments. The young chicks should be examined every week or so for head lice and lice on the body. A good dusting with insect-powder is usually sufficient for the body-lice; for head-lice, grease their heads with carbolic salve. The laying hens, if they have not been properly cared for, will be found to be teeming with lice. Spray the roosts and nestboxes with a coal-oil emulsion or some liquid lice-killer. If the lice are very numerous, it may be necessary to dust each one separately with insect-powder before the lice can be effectively exterminated.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT

Calfalfa Meal

ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings or Oil Cake meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application.

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application.

MILLS
West and Nielsen Aves

California Stock Food Co.
FRESNO, CALIFORNIA

OFFICE
121 FORSYTH BLDG.

PETALUMA'S FAMOUS POULTRY SUPPLY HOUSE

Retail Department of the Coulson Poultry and Stock Food Co.

INTERIOR VIEW OF STORE AND SHIPPING DEPARTMENT OF COULSON'S POULTRY AND STOCK FOOD COMPANY.

The feeds are prepared on lower floor, and after they are all prepared, are sent up to the shipping department by means of two electric elevators, and all day long the men wheel out truck load after truck load of Coulson's Egg Food and Coulson's Chick Foods—hundreds and hundreds of sacks, going to many different destinations—some going hundreds of miles south, some hundreds of miles north, some way east, and some across the water to the islands. Truly, it is a wonderful business, and it certainly must be a good feed. Coulson's Chick Feed, Coulson's Egg Food for Laying Hens, Coulson's Molting Food, etc.

Petaluma, California, known as the Egg Town or the White Leghorn City of the World; called so because of the millions of White Leghorn Chickens raised around there.

PETALUMA, CAL., is known as the greatest poultry center in the world. There are chickens by the million—nearly everybody for miles around is engaged in raising poultry. In taking a poultry census it was found that there was at one place, 35,000 laying hens in one square mile, and taking in a radius of 12 miles around Petaluma, there are about one million laying hens. There are many large poultry farms of 200 and 300 acres, and they will have from 3000 to 6000 laying hens, and they gather in eggs by the thousand.

There was shipped out from Petaluma, during the year 1903, 3,407,334 dozen eggs, and during the year 1904 three and a half million dozen, and, this does not include the millions of eggs that were placed in incubators, for there are hundreds and hundreds of poultry farms near Petaluma, and all have their incubators. Some have incubators to hatch out over 5000 chicks at a time, and on some places they will hatch out from 20,000 to 50,000 chicks, or more, each season.

To feed all these chickens it requires about 5000 tons of feed per month. This feed is brought in by railroads, boats and steamers. The Coulson Co. mix these feeds together, using certain proportions of each kind, so as to make a balanced ration, or proper feed for the fowls. The mixed feed for laying hens is put up in feed bags and is called COULSON'S EGG FOOD. Two kinds of feed is prepared for little chicks. The cheapest kind is made of ground grains and animal meals, and is called Coulson's Growing Chick Feed, and the best kind is COULSON'S SPECIAL Chick Feed, which is all granulated pieces of cracked grain, seeds, and tiny pieces of dried meats, granulated bone, etc.

The Coulson Co. is supplying the feed for these large and successful poultry farms, and, of course, it must be the best feed to produce such good results. Coulson's Poultry Food is now shipped to all parts of the Pacific Coast. Ask your feed dealer about it.

ANOTHER VIEW OF RETAIL DEPARTMENT OF COULSON'S POULTRY SUPPLY HOUSE.

Coulson's No. "3" Condition Powders for poultry—some for hens, some for little chicks, some for horses, some for stock of all kinds. Incubators, Lice Killers, Sprays, Disinfectants, Poultry Remedies, Roup Cure, Cholera Cure, Remedy for preventing little chicks from picking each other, etc.

If you want some good things to help your fowls, we can supply you. Send for our catalogue and let us hear how you are getting along with your poultry, chickens, turkeys, etc. Write to us now, while you think about it.

The home of Coulson's Poultry Food Co., showing exterior view of factory building on upper Main street, opposite the beautiful plaza.

Notice the big truck loads of Coulson's Egg Food and Coulson's Chick Food and also the hundreds of sacks piled up on the sidewalk ready for shipment and still more to come, for there are from 330 to over 400 sacks in a carload, and shipping 2 or 3 carloads in a day is common.

Feed your hens Coulson's Special Moulting Feed and you will have splendid success.

If you want to buy any feed, poultry supplies, incubators, condition powders, roup cure, lice killer, spray pumps, etc., send to Coulson Co We can supply you at lowest prices.

Coulson Poultry and Stock Food Co., 730-732 Main Street Petaluma, California

Queries and Suggestions

JOHNSON GRASS.

Editor Cultivator: I have frequently noticed articles about the so-called Johnson grass, and they almost universally condemn it. Editors who know nothing at all about it personally seem to think it a safe subject to write about, supposing it has no more numerous friends than has Judas Iscariot.

I know it is generally considered a nuisance, and so it is if you allow it to take root in damp land, where you don't want it. I have been familiar with it ever since it was first introduced into this country. I consider that when it is rightly handled it is a very valuable plant to be used on naturally dry land under irrigation. The article from the Fresno Republican which you reproduced August 18 is the merest rot. Pastures in this locality have contained Johnson grass for years, and all kinds of stock eat it as readily as they do alfalfa. Of course if it is allowed to get ripe and hard, it is no better than alfalfa that has become woody. It rivals alfalfa in growth and is more tenacious of life. You can pasture it close all summer, then you can plow it in the winter and the succulent roots furnish an amazing amount of very fine food for hogs. I have seen hogs fat enough for market with no other feed. In the spring you have only to harrow it down, give it a chance, and you still have a good stand and a fine pasture.

There is no danger of its spreading on dry land, either from the seed or roots. Don't plant it in your orchards if you don't want it there, for the moisture your trees require is sufficient for it, and it will hold its own with any orchard I ever saw.—E. A. May, Poplar, Tulare Co.

BASKET WILLOW.

Editor Cultivator: Wishing to plant some basket willows, I write to ask if you can tell me where I can get cuttings of some. Any information on the subject will be appreciated.—E. D. Linder, Santa Ana.

The best willow for basket work which can be grown in California is Salix viminalis. The only place we know of its being for sale is the Fancher Creek Nurseries, Fresno.

BELGIAN HARES.

Editor of Cultivator: Please tell me where I can buy Belgian hares.—W. Robinson, San Bernardino, Cal.

The Belgian hare breeders are not as plentiful as they were at one time, so we do not have the address of any one able to supply stock at this time. As interest seems to be increasing it may be possible that breeders will find profit in carrying a card in the Cultivator.

STRAWBERRIES—RHUBARB.

Editor Cultivator: I want to have a few Arizona Everbearing strawberries in my yard; please tell me when to plant, and how to cultivate for berries next spring. Please tell me, also, if I can grow a small quantity of Burbank's Crimson Rhubarb, or does its cultivation require a large space. I am inexperienced, but think I can learn.—Mrs. A. L. H., Mesa, Arizona.

Strawberry plants may be set out at almost any time from fall to spring, if in a location where the soil is warm and drainage good. If these conditions are not present, it is not a good place for strawberries. The secret of success lies in freedom from weeds, frequent watering and cultivation and the retention of soil moisture close to the surface. This latter, while attained in commercial fields by frequent irrigations and cultivations, may also be produced by a good mulch between the rows and right to the roots of the plant on all sides. Keep off runners unless you wish more young plants. You may easily grow the Crimson Winter Rhubarb in a limited space.

REMOVING OLD VINES.

Editor Cultivator: Will you kindly inform me through the columns of your valued paper, the best way for me to get rid of several hundred grape vines which are planted in a young walnut orchard and are sapping the moisture from the ground and retarding the tree growth. They are Muscat, and Tokays, four and five years old, and very stocky.

Will chopping them off at several inches below the surface kill them, or will the roots sprout? What time of year would be best to cut them out?—C. H., Pomona.

We do not think it will do well to chop off the vines as you suggest, for it would certainly prevent deep cultivation for many years, and besides the continually sprouting, would make additional work. We believe the advantages secured by removing the old vines will be such as to compensate for the additional expense. The following contrivance, which has been used, accomplishes the removal of vines the most cheaply of any of which we know:

Take the rear axle and wheels of a good stout wagon and a straight grained pine four by four, and say sixteen feet long. Fasten to center of axle with about two and one-half feet projecting to the rear. On this short end of the lever have a blacksmith construct a stout hook. Then run the trucks over the row of grape vines and when the first vine is reached raise the sixteen-foot lever upright, which will bring the hook close to the ground at the base of the vine. Make a quick hitch about the trunk of the vine as close to the ground as possible with a stout chain fastened to the hook, then with a long rope attach team to the upper end of the lever and pull.

The closer to the ground the chain is placed the less danger of breaking off of vine. But where a vine is broken off a little digging will allow of a second attachment of the chain and the vine can be removed. We have seen two men and a team with this appliance walk across a large field, removing every vine in the row in an incredibly short time.

The time of year is immaterial, save that cleaner work will be done in winter after rains soften the ground. There will also be less breakage then. If any part of the old trunk is left it will sucker for many years.

QUESTIONABLE METHODS.

The Cultivator has letters from certain Pomona subscribers, calling attention to an article published in the Pomona Review, written by B. A. Gilmore, representative of the Citrus Union at that place. The writers in all cases call attention to the following words:

"The California Cultivator has charged many times, without contradiction, that the method of arriving at the Exchange cost of packing is absolutely dishonest. The incident cited is that the Claremont Citrus Union last year shipped hundreds of sacks of oranges to Los Angeles. The sacks were returned, and the cost per sack for labor was about two cents. In figuring the cost of packing, their sacks were counted as boxes, and as the cost of these sacks was two cents and of packing around thirty cents, it was easy by this method to reduce the average cost of packing.

Now, when the returns for the fruit in these sacks were figured (these sacks had been reckoned boxes to reduce the cost of packing) it would be supposed that they would be reckoned the same to reduce the average net returns on a packed box of fruit. But not so, the money received in this case was not paid the grower direct, but used to raise the returns on other grades. The Cultivator claims this is one of the numerous methods of Exchange jugglery to deceive the grower."

The first and last quotations in that statement are both most surprising to the Cultivator. If. Mr. Gilmore will inform us in which issues we have so "many times without contradiction" charged "absolute" or any other kind of dishonesty, or wherein we have said there has been exercised "Exchange jugglery to deceive the grower," we will appreciate it and will publish such information for the benefit of others.

One subscriber inquiring as to where he can see the references above referred to says:

"The writer has been a constant subscriber of your paper, and reader of same, very closely, for about three years, and if you have ever published anything of the kind, as Mr. Gilmore states, it has escaped the writer's notice; which is strange if you have made such publications "many times."

Pomona seems to be the principal battleground this year of the war against the Exchange. If the fruit shippers not members of the Exchange have a better method of fruit marketing than that in force in the Exchange management, that should be sufficient to win friends for that system and make unnecessary claims which are untrue.

GUM DISEASE.

Editor of Cultivator: Kindly give cause and remedy for gum disease of orange trees. Is it contagious?—Subscriber, Covina.

The discussion of the cause of gum disease would lead into contention with many who have studied this subject for years. There is difference of opinion as to what the cause may be for it appears under varying conditions and in various locations. In general, however, it is considered well to keep from moistening ground near the trunk of the tree. Many treatments have been given in the Cultivator. One of the simplest treatments is to scrape off the scaling and diseased bark, also all diseased and gummy wood. Save and burn the scrapings to prevent spread of the disease, as it is contagious. Wash the cleaned parts with carbolic acid and water, equal parts. Smear over with tar.

EVERY crop takes plant-food from the soil that nature, unaided, cannot restore. The liberal use of a complete fertilizer, rich in POTASH, will revive old and worn out land to fertility, and insure larger crops from even the best of land.

Our books are free to farmers—they are not advertising pamphlets, but works of reference and a valuable addition to the farmer's library. They are free to all who will write for them.

Address, German Kali Works, 93 Nassau Street, New York.
Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297
Pasadena, Cal.

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.

RHODES DOUBLE CUT PRUNING SHEAR

Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.
RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

Half Rates
EAST
SALT LAKE ROUTE
One Fare Round Trip to New York, Chicago, St. Louis, Memphis, Kansas City, Omaha and all Eastern Points.
CHOICE OF ROUTES RETURNING
PORTLAND EXPOSITION—
$60.00 Round Trip, limit 90 days. Going via Salt Lake City and the famous Columbia River, returning via Shasta Route and San Francisco. Stopovers allowed.
$40.00 Round Trip, limit 21 days. Going and returning via Salt Lake City and Columbia River.
Personally Conducted Tours to Yellowstone Park, Portland Exposition and Alaska. Information gladly given at City Ticket Office, 250 South Spring Street, Los Angeles. Both Phones 352, First Street Station, Home 490, Main 4095.

DAME HISTORY'S PRIZE.

Dame History, teaching the nations in her school
The A B C of government—oh! long and hard the rule!—
Tapped sharply with her pencil; "Attention, class," she cries;
"Here comes the clay for modeling; now who will win the prize?
Let each of you, as best you may, a hero make and bring,
A leader and a statesman, a conqueror and king!"
Then all the little nations went eagerly to work,
Not one would fret or dawdle, not one was found to shirk,
And when the hour was ended, each hopeful nation brought
The product of her artistry, the Hero she had wrought.
Then Egypt came with Rameses, calm, stern and merciful;
Judah with warrior David, the poet beautiful;
And Persia brought Darius, the pattern of a king;
And three lovely Grecian sisters their work together bring;
Athens had noble Pericles, few greater men may see;
And Sparta brought Leonidas, slain at Thermopylae;
And the youngest, Alexander, whom men have named the Great;
Then Carthage came with Hannibal, trusted and loved too late;
Imperial Rome brought Caesar, the mightiest man of men—
The Nations paused and wondered a little space, and then
Up came the hurrying moderns, statues in either hand,
For Spain bore Isabella, and with her, Ferdinand;
And France her best-loved Henry, and great Napeoleon;
And Germany her Frederick', and Bismarck, Empire-son;
And Sweden with her conquering Charles; and Scotland with the Bruce;
And England came with armfuls, as doubtful whom to choose;
Queen Bess was there, and Cromwell, Nelson and Wellington,
And many a warlike monarch, and many a mighty son.

The Dame looked on exulting, with eyes of loving pride;
"Well done, my little Nations! Well done!" again she cried,
"Oh! wonderful and noble the statues you have wrought;
But now to give the prize, indeed, is harder than I thought;
For not a hero in the list, tho strangely great and fine,
But has some grievous blemish, some fault we all divine.
Oh! is there not a man of all these rulers great and true,
Quite sound and good and selfless, and noble through and through?"

Then timidly and shyly came the youngest from her seat;
"She's nothing but a baby; of course she can't compete;"
And yet she brought her statues—the dame looked on amazed;
She looked, she gazed, the started; her eyes with triumph blazed;
"Columbia, my darling, the prize you well have won,
Two rulers great without a flaw, Lincoln and Washington!"
—Samantha Whipple Shoup, Dubuque, Iowa.

Alimony is not a debt of honor, for a debt of honor is one which can not be collected by law. It's a debt of disgrace, and must be paid.—Sioux City Tribune.

The Strike at Nixon's

Lavina Nixon stopped working to sigh in a woe-begone fashion alien to her years.

O dear suz I wish I were Cinderella! I'm tired to death with this humdrum, do-nothing-but-work life. I hate it!"

"Why, Viny Nixon! What's on your mind to make you talk that way? I'm s'prised!" and Mrs. Nixon looked at her daughter compassionately.

"I can't help it; it's so. I just hate it! We're so different from everybody else. We never go anywhere nor have anything like other folks. Pa don't care any more for you'n me 'n he does for the rest of the machinery in the farm!"

Mrs. Nixon sank on a cracker box and pushed back her sunbonnet.

"Viny! Viny! How desperate you talk! Be you crazy?"

"No ma, I'm not crazy. I've been thinking, though, and I'm just getting to realize how we're being robbed. Pa buys us a few of the cheapest clothes to keep the neighbors from talking, just as he put up the lightnin' rods to save the barns being struck. He feeds us to keep us able to work, same as he oils the other tools to keep 'em from wearing out!"

"Oh, Viny!" gasped her mother, and the note of protest stung the girl.

"It's the awful truth," she persisted "If we was only his cook and hired girl we'd fare better'n we do now. We'd have wages and we could spend 'em where we liked. Now, we have next to nothing and get that charged to Furnam's one-horse store at the Bay. Besides, he scolds when the bill comes due in the fall—another thing we'd miss if we didn't belong to him."

Mrs. Nixon's loyal wifely heart longed to meet these accusations against the father with denial; but the truth in them was as a sword-thrust to her sensitive soul. That she could no longer hide his great defect of character from this child made her heart sick. She hid her face in her hands and a moan escaped her. Lavina mistook its meaning and spoke rapidly, that she might relieve her mind before her mother's patience should be exhausted.

"When the cattle don't do well he gives 'em change of feed; but we can live forever in the same place! When he got the harvester-and-binder did he ask if we needed a washing machine? Did the new seeder make him think we needed carpets or oilcloth to save our scrubbing bare floors? No. It isn't his back that bends for that! He takes a farm journal; but there isn't a woman's magazine to come to us! He pets the calves and old Shep; but I can't remember his kissing you in years! Can you?"

She paused for breath, her cheeks flushed and eyes flashing, so completely had this accusing spirit gained possession of her.

Mrs. Nixon shook her head as she wiped her eyes on a corner of her apron.

"'Tain't your pa's way to be demonstrative—I've got used to it—but he ain't all bad, Viny. He don't drink nor stay out nights and he ain't 's bossy 's some I've known; we can arrange the furniture's we want to and cook what we like; that's some comfort. We've went, too, quite a bit for us, this summer," she added.

"I should think we had. Five funerals and down to the Bay for Decoration—all those trips ended in the buryin' ground! And how'd we go? In the old democrat—I, holdin' an umbrella—while other folks was in top-buggies; you, in your old cashmere—ten years behind the times; me, wearin' my muslin with tight sleeves and ruffled skirt, beside the plain gores and leg-o-omutton's of the village girls." Lavina laughed hysterically at the comparison; but it held only bitter, ironical tones, which jarred and rasped and failed to soothe as a laugh should.

"Can't I put the ruffles on the sleeves and make 'em look—?"

"Like old frights!" interposed the girl. "No. I'll stay home till I get a new one; for I will have it."

Timid, yielding, Mrs. Nixon could bear no more and rose to go. Stopping beside Lavina, she wound her arms about her and kissed her passionately—with something of renunciation in the act—much as we kiss our dead. Viny the child, was lost; Viny, the discerning woman had spoken—had exposed her father's selfishness and rebelled against it. Silence had hitherto enshrouded this skeleton of the home life, but her words had made it impossible to hide it in even partial oblivion, again.

It was half-past 10. Since 9 o'clock Viny had stood beside the old-fashioned churn; still the butter refused to "come," Its very obstinacy seemed a part of the force which bound her to this hated life. Now, her resentment gave new strength to her tired arms and the rapid plunk-plunk-plunk of the dasher indicated her strong will.

Damp, cold and inconvenient, the milkroom fostered a revolutionary spirit. Its one small window opened toward the north. Sunshine might envelop the world, but it never crept in here with its softening, subduing, enriching power. In her present mood, this seemed another loss which taunted her. The racks were lined with time-worn pans; they must be cleaned and the milk taken out—the pigs were even now squealing lustily for it. So it was—work, work—work

At dinner, the sleazy cotton tablecloth, steel knives, and "ironstone china" grew hideous to her; the salt pork, potatoes and brown bread almost choked her with their coarseness; her father's sipping tea from his saucer seemed barbarous and the final scraping of the splint-bottomed chairs on the uneven floor made her shiver. She wished again to be Cinderella and thought of the prince as she glanced at the hired man.

Silent much of the afternoon, noting but her changing color revealed the thought-tempest raging within her. With the presumption of youth, before night she had decided to reform her father. When in the twilight she found him seated on an inverted pail, smoking and reading, leaning against the barn door, with less tact than decision, she dropped on a milking stool beside him. He looked at her curiously; the interruption annoyed him. Her request for money angered him. Her evident discontent aroused his instinct of self-preservation. With a laugh, misleading to her inexperience, he asked: "Where'd you get them ideas on women's rights?"

"In here," she answered, turning the newspaper on his knee and pointing to the "Woman's Column." Headed sometimes by fashions, at others by household recipes, it had looked inoffensive, and uninteresting to the farmer; he had not read it; his daughter devoured it. Glancing down the column his eye now caught a few isolated statements: "The wife should be a partner to the husband's business interests"—"Beautify and make the home pleasant"—"Give your wife an allowance"—"Dress well—" here he slammed the paper down vengefully, as though crushing it, crushed out of existence the disagreeable sentiment.

"Phm! domestic anarchy!" he grumbled; "don't let me hear any more of them fool notions—never. You won't get another muslin by my buyin' it—not this summer, one's enough at a time. You needn't get your ma to tease, either—'twon't make a bit of difference. And, mind, don't

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trademarks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phone 347
When writing advertisers mention Cultivator.

HELP!
Settle Your Own Country

The Santa Fe

is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to

WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

say any more 'bout goin' somewheres else to work; if you do, I'll collect your wages—yon ain't 18 yet, you know," and he left her abruptly.

"Pa Nixon" had not absorbed "reform" measures as Lavina had fancied he might. Too sanguine, defeat stunned her. She went back to the house thirsting for revenge, and sat by her window until long into the night planning how she might outwit him.

Days passed uneventfully save for much earnest, low-toned conversation between the girl and her mother. Tortured with indecision—whether to stand by the husband, or be swayed by the child—Mrs. Nixon felt they were facing a crisis; felt herself borne along, somewhat unwillingly, by the current which led to it.

Nothing more was seen of the "woman's column" in the weekly newspapers; the father clipped it out each week, prior to bringing it home. But Viny read it more eagerly still, at a neighbor's a half mile away.

Dame Nature had left the Nixon farm on the very top of Rocky Ledge as a housewife might hide away cake on the topmost pantry shelf. To reach it, one must climb a steep road choked with stones. Some swore at Jim Nixon, others at the pathmaster; a few, at stones in the abstract for this condition. Wide at the valley, it narrowed gradually; half up the ascent was a sharp bend called "Nixon's Elbow." Beyond was the cool shadow of the woods, the scent of brakes, moss, and blackberry bushes; then came the open sun-gilded acres.

That part of the land where the ledge sloped off toward the east, fell away with the rest, and the gnarled, old wind-racked trees, scattered here and there, were like monster pegs stuck in by a giant hand, to keep the whole from slipping down—down to where the river crept into the mainland and gave the place a name—"Nigger Nose" Bay.

Nixon crops were abundant; barns, numerous and large and their condition bespoke painstaking care. But the poor little house at the left seemed to be suffering the pains of vivisection from neglect and the elements. It might have held the Nixon pedigree for generations back, but looked orphaned in its impoverishment. Inside, the furnishings might have served frontier days without comment, but for the twentieth century they aroused suspicion. The blight of the master's sordidness branded the rooms; they were barren of coziness and home comforts.

He was a church member; but not a New Testament exponent. His Christianity had not submerged his selfishness or his will. It did make him honest, moral, humane to dumb things, a civil citizen and a grudging contributor to the Gospel. Here it ended.

The air was sweet with June roses as Mr. Nixon one day came from the field for dinner. The house was silent and tenantless. Windows were closed and the atmosphere stifling. The fire was out. A note which lay on the empty teakettle read: "Pa: We're down to Mrs. Blake's helping get up the sociable for the church. You'll have to churn; cream's in the cellar. We won't be home till late. Viny."

Why had they not asked him something about this? "You'll have to churn!" He did not quite like the situation—this being unable to refuse. "We're up against a cold dinner, Zed; the cooks have lit out," he remarked as the hired man came in.

"Good thing; good thing! it don't hurt a man to scare up game for himself once in awhile; he ain't so apt to cock his gun at the woman's cookin for a spell afterward," Zed answered.

"By crimus, Zed! Can you shack along without tea? The women folks hain't left a sliver to start a blaze with and time's limited," said Nixon, coming in directly with a plate of cold potatoes, a huge piece of dried beef, and a pie.

"Just like a camel crossin' Sahary! give me a starter on the town pump an' its all the same to me. I ain't no summer boarder."

A loaf of bread—with a newspaper under the edibles—a dipper of water convenient to both, and the menu was completed. Mr. Nixon murmured something about "furbelows beiu' missin'."

"'Nough said, 'nough said! it's more'n Eliger had!"

"You'll have to finish the cultivatin' alone; I've got to churn, y' see," throwing Viny's note to Zed. "The cream's sour's an old maid or I'd leave it; but it's churn it or loose it—one or t'other."

Zed was willing. His acceptance of the emergency put to shame the inner grumblings of his host. Lank-bodied, long-limbed, red-haired, good-natured, Zed One look into his face, with its mirth-bejeweled eyes and philanthropic smile, made him seem like an elongated sunbeam.

The clock struck 2 before the butter was down cellar smothered in cold water. When Mr. Nixon again came to the kitchen, it was to farther confusion. The chickens on the table flew out the window; those under neath dashed through the door.

"Drat them impudent hens; they've ruined them victuals!" But why should not the hens come in? Everything invitingly open, no screens to prevent and not a woman about to hollow "shoo." He dimly remembered Mrs. Nixon's having asked for a hen park in the spring.

Before 5 o'clock he was again at the house. Eggs to be gathered, pigs, calves and fowls to be fed, fire to build and pans to scald. All the women's work; it took his time! He also remembered again that his wife had asked for extra pans a few weeks since. He saw the reasonableness of her plea but did not acknowledge it.

His greeting at the breakfast table the next morning was cold and repelling. A warm dinner, however, made him fancy the old routine restored.

Afternoon found him in the potato field. At 4 o'clock a voice called over the fence: "Say, Nixon! where's your women folks?" It was Price, the produce merchant.

"Don't know," was the surly response as he dropped his hoe and the two went back to the house. On the table was another note; it said: "Pa: We are gone to Mrs. Merenus's birthday surprise. If Mr. Price should happen to come"—Oh, the irony of that word "happen!" he came regularly alternate Thursdays, and was due today—"the butter is worked and ready to mold. The steelyards and stamp hang on the end of the cupboard. Viny."

Mr. Price had customers who required butter in pound prints. Particular? Yes. But they paid extra. The buyer would accept it in no other form. Mr. Nixon was obliged to honor the demand. Why not? He claimed the proceeds of the sales? An hour later he started back to his work, resolved that this "gaddin' business should end."

His reproof that evening was quietly accepted and all went as usual for a few days.

Wednesday of the following week a third note informed him that Mrs. Nixon and Viny were at a Sunday school picnic. Under a napkin were left bits of pressed chicken, tarts and fruit cookies; also cake frosted and adorned with cinnamon drops.

(To be concluded.)

Cookery Recipes

RECIPES.

Dutch Scramble.—Put a good sized piece of butter in a saucepan, set it over the fire and when melted stir in a cupful of shredded codfish; allow the butter and fish to become well mixed, and if necessary add more butter; then break in five eggs and scramble. Season with pepper and salt and serve very hot.

* * *

Wax Beans.—An English recipe for serving wax beans is novel. Cut the bean breadthwise in half or quarter-inch pieces and boil in salted water. Drain well and prepare the following sauce: Make a sauce with equal quantities of flour and butter, add salt and pepper and a cupful of sour cream. Add the beans and allow them to boil up once, stirring all the time. If no sour cream is at hand sweet cream or rich sweet milk with a few drops of lemon juice will serve.

* * *

Lattice Potatoes.—Some sort of fried potatoes are relished with salad. If cut with a patent cutter that makes the pieces like a lattice they seem a little different from strips or shreds. Drop into cold water for half an hour, drain and dry on a cloth; then fry in deep, hot fat. Serve on a warm plate and dust with salt.

* * *

Mint Sauce.—Mint sauce is the customary addition to roast lamb. Chop the mint leaves fine and measure one-quarter cup. Add the same amount of sugar and one-half cup of vinegar. Set on the back part of the range and as soon as the sugar is dissolved and the vinegar is hot the sauce is ready for use. Cooking it spoils its best flavor.

* * *

Southern Mashed Potatoes.—Pare and boil eight large potatoes in salted water; mash, and season with one tablespoon of butter, one teaspoon of salt; one-half teaspoon of pepper and one-half cup of cream of milk. Beat thoroughly, and heap into a mould or buttered pie plate, topped with one teaspoon of butter. Place on the upper shelf of the oven and bake until the whole outside is a rich brown.

HOMELY HINTS.

A shoe case on each slothespress door is a help to order.

To sweep the attic, cellar or any very dusty floor, first dampen pieces of newspaper and throw around; they help collect the dust.

Keys that never stay in place may

ABOUT ANTS

Ants like the taste of K. A. P. and eat greedily, but it acts quickly and they leave at once. One b ttle does it. Sent prepaid, by express, only, 40 cents.

KELLOGG'S ANT PASTE CO.

1010 E. NINTH ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

NORMAL SCHOOL

IN

FRESNO

If you want the ***Best Normal Training*** in the shortest possible time, or if you want a special course, literary or scientific, get it at Chesnu.wood's in Fresno.

Teachers Prepared for Grammar Grade Certificates

The best training in Bookkeeping, Penmanship, Shorthand and Typewriting.

WRITE FOR PROSPECTUS.

Chesnutwood's Business College

at Fresno, or Santa Cruz, California

When writing advertisers mention Cultivator.

THE SMILE

THAT WONT COME OFF

Is always worn by the THRIFTY HOUSEWIFE who uses a

WHITE LILY WASHING MACHINE

Send us the name of your Hardware Dealer and get a WHITE LILY on 30 days trial—FREE

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

When writing advertisers mention Cultivator.

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES

Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

be fastened to the knobs by small gilt cords.

Well ventilated bedrooms will prevent morning headaches and lassitude.

A cup of hot water drank before meals will relieve nausea and dyspepsia.

THE EXCHANGE UNDER A NEW NAME.

As will be noticed from the advertisement on the second page of the Cultivator, the Southern California Fruit Exchange will, after today, do business under the name of California Fruit Growers' Exchange. The reason for this change of name is stated to be that the exchange may have a broader field and not be considered sectional.

The Exchange holdings in Central and Northern California for the coming season will amount to over 50 per cent of the northern crop of citrus fruit, against less than 25 per cent in any other one year. At Highlands, the Exchange has an increase of some 200 to 300 cars and the same at East Highlands, with prospects also of some 200 to 300 cars additional at Corona.

During the past season, the Exchange has marketed 14,200 cars of oranges and lemons at an average price per car, net, f. o. b. California, every car included, of over $500, which is over $100 per car more than received for Exchange fruits during the previous year.

By the way, the advertisement above referred to will bear reading a second time and we would advise every citrus grower to do so.

* * *

A GOOD VETERINARY REMEDY.

The Paxton Veterinary Medical Co., who have an ad. in the Cultivator, recently received a letter from Donovan & Bourland, large liverymen in Los Angeles, in which they give a strong endorsement of the remedies put up by this company. Here is an extract from the letter: "We have used your cough and throat remedy; also your purgative pills in our stables for the last six months and find them the best veterinary remedies we have ever used."

* * *

Just issued, a beautifully illustrated, 80-page magazine, descriptive of farm life in Central California. Will mail you a copy free upon receipt of four cents in postage. Each article in this magazine is written by a practical farmer, fruit grower or dairyman. The illustrations are the best obtainable. This magazine tells the truth about California. If you are at all interested you should read it. Send four cents in postage to Editor Gateway Magazine, Chamber of Commerce, Stockton, California.

* * *

Attention is especially called to the adverstisement in this issue of Chesnutwood's Business Colleges at Fresno and Santa Cruz. Write for catalogue to either city and you will receive reliable information in regard to two excellent schools.

* * *

Orchardists will be interested in the advertisement in this issue of Rhodes Mfg. Co., of Grand Rapids, Mich. They have a good pruning shears.

* * *

The Rancho Verde Company, of Victorville, want 30 head of milk cows, either Jerseys or Guernseys. Read their ad. in the dairy department.

* * *

A good, second-hand gasoline engine is offered by the Gray, Lyon Co., of Riverside. Their ad. appears on our last page.

Los Angeles Markets.

Los Angeles, August 30, 1905.

Butter.

Butter market remains same as last week. At this time there is in cold storage 1,516,245 pounds of butter, as against 1,458,270 lbs. same date last year.

B. of T. Creamery ... .57½
Valley Creamery, fancy ... ..55@57½
Coast Creamery 44
Fancy Dairy ... ...45½@47½
Cooking, per lb .....18@20

Cheese.

Cal. 3-lb. hand 14¼
Cal. Young America 15¼
California Anchor 14¼
Northern ....12½@13
Eastern 16
Domestic Swiss 16½
Imported do 27½

Eggs.

Eggs are lower, caused principally by the heat lowering the quality. There is now in cold storage 38,135 cases of eggs, as against 34,514 this time last year.

Eggs, fresh ranch 27
Eastern and Storage 23
Seconds ... .20

Poultry.

Prices same as last week with little demand and small supply. Eastern frozen turkeys are very scarce.

Fryers, 2½ lbs .....13@14
Broilers,under 2 lbs, per lb....13@14
Young Roosters, per lb .....13@14
Hens, per lb .....12@13
Ducks, per lb 10
Turkeys, per lb ....16@18
Geese 11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt... .....6.00
Prime Steers, cwt 4.00
Cows, cwt 3.00
Calves, cwt 4.75
Sheep, ewes, per head 3.50
Lambs, do 3.00
Wethers, per head 4.00

Potatoes.

Potatoes are a trifle lower. Good stocks are being received from Stockton, also locals from Highland.

Northern, per ctl .....1.00@1.05
Locals, per ctl .....75@90
Sweets, white, per cwt $1.50
Sweets, yellow ....$1.75@2.00

Vegetables.

Very little change in vegetables. New celery from Orange county is now coming in and selling at 30 to 40c per dozen.

Onions, yellow, per cental ...75@1.00
Onions, Silver Skins, sks .....50@75
Beets, per 100 lbs 75
Cabbage, per sack 50
Parsnips, per sack ....60@65
Bell Peppers ....2@3
Cucumbers, per box .....25@35
String Beans .....1½@2
Wax Beans .....2@2½
Green Onions, doz bunches....20@25
Carrots, doz. bunches .....25@30
Turnips, doz. bunches .....25@35
Garlic 20
Celery, dozen ....30@40
Peas, per lb .....3¼@5
Rhubarb, per lb 04
Egg Plant 4
Chili Peppers, green .....1½@2
Chili Peppers, dry 1½
Tomatoes, local .....35@50
Asparagus ....8½@10
Parsley, per doz bunches.....30@40
Summer Squash, bx 20 lbs ....15@40
Green Corn, per sack .....50@75
Lima Beans 2½

Citrus Fruits.

Valencias..... ... ...$2.00@3.00
Lemons, standard .....2.00@2.50
Lemons, fancy ....5.00@6.00
Grapefruit ....1.00@1.50
Grapefruit, seedless 2.00

Fresh Fruits.

Muscat grapes are now in and of good quality. Winter Nellis pears also are offered.

Strawberries ....4@6
Blackberries ....5@6
Logan Berries .... 5@4
Peaches, per box ..... 75c@$1.00
Plums ....75c@$1.00
Nectarines ....75c@$1.00
Figs, per box .....25@50
Grapes, Thompson's Seedless. 50@75
4-Tier Alexanders .....1.00@1.15
Muscats ....75@90
Concord, lb 5
Pears, Winter Nellis, bx 1.00
Muskmelons, large crates ..1.00@1.50
Watermelons, doz .....35@1.50

Beans, Dried.

Limas 4.50
Pinks, fancy ....3.65@3.75
Pinks, rain damaged .....2.50@3.00
Lady Washington ....2.75@2.85
Small Whites ... ...3.15@3.35
Black Eyes ....2.50@2.75

Nuts.

Almonds, paper shell ....18@20
Almonds, soft shell ....18@20
Peanuts, California ....5@6
Peanuts, Eastern ....7½@9
Walnuts, No. 1 softshells .....14@15
Walnuts, hardshells ....10@12

Honey

Honey, comb, frames ... .10@15
White strained, per lb ... .5@5½
Amber ....4@5
Beeswax ... .23@25

Hay.

Barley, new ....8@12
Alfalfa, local new ....$10@11.50
Alfalfa, no thorn ....10@11.50
Wheat, new ....10.00@11.00
Tame Oat, new ....$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ....1.50@1.55
Barley ....$1.00@1.02½
Corn.. ....1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran 1.25
Feed Corn Meal $1.60
Middlings 1.40
Cracked Corn $1.55
Corn $1.50
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

San Francisco, August 30, 1905.

Dairy.

Butter has taken another advance during the past week. On the whole, the market is quiet, dealers operating cautiously, the better grades commanding top quotations. A good deal of storage butter is now being used.

BUTTER—Per lb:

Creamery, fancy ....26 @27
Creamery, good to choice ..24 @25
Dairy, choice .....21 @23
Store ....17 @18

Cheese has also advanced one-half to one cent per pound. Following are the quotations:

CHEESE—Per lb:

Cal. Creamery, mild new ...12½@14
Do, choice .... 9½@11
Young America ....12 @13
Eastern, New York Cream
Cheddars and flats, new .14 @15

Eggs.

Eggs are without noteworthy change; ranch offerings are somewhat easier, while storage rules firm at full figures.

Ranch, selected large .....32 @33
Ranch, good to fancy ....28 @30
Store ....18 @23
Eastern, extra ....24 @25
Eastern, firsts .....21 @23
Eastern, seconds .....18 @20

Poultry.

There has been but slight change in the poultry situation, the quotations being firm, although the demand has been rather limited.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $5.50@7; Fryers, $3.50@4; Broilers, $2@3; Hens small, $4@5; large, $5.50@6.50; Live Turkeys, per lb., 19@22c; Spring Turkeys, 23@25c; Ducks, old, $4@4.50; young, $4@6; Geese, per pair, $1.75@2; Goslings, $2; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@$1.75.

Fresh Fruits.

Apples, per box, fancy, 85c@$1.15, common to choice, 40@75c; Crabapples, per small box, 60@75c; large, $1.40@1.75.

Figs—Per box, Black, 50@85c, as to size of package; White, 50@75c.

Pears—Per box, Bartlett, 75c@$1.50; bulk, per ton, nominal; other varieties, per box, 50c@$1.

Peaches—Per box, Mountain, 50@85c; carriers, 40@80c; open boxes, 60c@$1.50; bulk, per ton, $30@50.

Plums and Prunes.—Per small box or crate, 40c@$1, as to variety, open boxes, 65c@$1.25.

Quinces—Per box, 50@65c.

Grapes—Per box or crate, Seedless, 65@85c; Sweetwater, 40@65c; Muscats, 50@85c; Blacks, 50@85c; Tokays, 85c@$1; Isabella, $1; open boxes, 75c@$1.25, as to variety.

MELONS—Cantaloupes—Per crate, 75c@$1.25; Watermelons, per doz, $1@3; Nutmeg melons, 25@60c.

BERRIES—Blackberries—Per chest, $2@3.50.

Raspberries—Per chest, $6@9.

Strawberries—Per chest, Longworths, $6@8; large varieties, $4.50@6; Santa Clara, $8@10.

Huckleberries—Per lb., 5@7c.

Vegetables.

VEGETABLES—Tomatoes, per box, 50c@$1; Green Peppers, per box, Chile, 25@40c; do, Bell, 25@40c; Okra, per box, 40@60c; Beans, per lb., Green, 1@

1½c; do, Wax, 1½@2c; Lima, 4@6c; Garden Peas, per lb., 3@4c; Cucumbers, per box, 25@40c; Egg Plant, per box, 50@75c; Garlic, per lb., 5@5½c; Green Corn, per sk, 50c@$1.25; per crate, $1@1.25.

POTATOES—Per ctl.: River Burbanks, 50@70c; Salinas Burbanks, 90c @$1.15; Early Rose, nominal; Garnet Chile, 40@50c; Sweet Potatoes, $1.25 @$2.25.

ONIONS—Per sk, Yellow, 70@85c.

Dried Fruits.

Operations in the dried fruit market continue extensive. The undertone is one of marked strength at strong prices. Prunes have the call in all trade centers with dealers holding in anticipation of still higher prices. Apricots have practically been cleaned out of first hands. Peaches are firmly held. Raisins are well cleaned up and firm prices are predicted for the new crop. As no new quotations are available, we reprint those of last week.

DRIED FRUITS—Prices for carloan lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, 1905 crop, fancy, 7½c; choice, 6¾@7c; standard, 6¼@6½c; Sun Dried, nominal.

Peaches—Crawford, fancy, 8¾c; choice, 8@8¼c; standard, 7¾c; Muirs, fancy, 9¼c; choice, 8¼@8¾c; standard, 8c.

Prunes, 1905 crop—Sack basis, f. o. b., for boxed goods add ¼@½c; four-size basis, 3¼@3¾c; old crop, 2¾ @3c.

Apricots—Royal, fancy, 8¾@9c; choice, 7¼@8¼c; standard, 6¾@7c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded, 3½c.

Honey and Beeswax.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@ 6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

Hops.

The price of desirable old crop is nominal at 16@19c per lb., according to quality; new, 1905 crop, 14@15c.

Beans and Seeds.

BEANS—Prices per ctl. for sound selections; Large White, $2.75@2.90; small do. $3.50@3.75; Pea, $3.25; Limas, $5.50@5.75; Red, $6.50@8; Pink, fancy, $3.65@3.90; recleaned, ordinary to choice, $2@2.50; Bayos, $4@4.50; Blackeyes, $3.75@4.25; Red Kidneys, $4@4.50. Rain damaged lots of all descriptions offering from 50c@$2 a ctl. below foregoing figures, according to condition.

Live Stock.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@ 5½c; rough heavy, 4¼@4½c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $7.50@13.50; Wheat and Oat, $7@12.50; Oat, $6@ 11; Barley, $6@9; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6.

New Crop—Wheat, $9@13.50; Oat, $7@11; Wheat and Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@ 24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $22.50@23.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $21.50 @22.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@28.50.

Flour and Cereals.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70 @4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@ 1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice, No. 1 Feed, $1@ 1.05; some fancy up to $1.06¼; off grades, 97½@98¾c; Shipping and Brewing, $1.05@1.10; Chevalier, $1.10 @1.25.

OATS—Good to choice White, nominal; Red, $1.20@1.40 for new crop; Black, for seed, $1.40.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small do, $1.55@1.62½; White, $1.37½ @1.42½; Eastern, Yellow, $1.40@ 1.42½; White, $1.40@1.42½; mixed, $1.40.

RYE—Good to choice, per ctl., nominal; new, $1.47½@1.50.

CITRUS MARKETS

The New York oranges markets for last week were about $1 per box lower than for several weeks preceding, but, notwithstanding the lower price, fruit was considered to have brought its full value. Offerings were quite heavy and several of the cars had probably been diverted from other points, as the fruit showed poorer than had been the rule for some time. California lemons brought high prices during the week, the great trouble being to secure supplies.

Sicily lemons were scarcer and will probably remain so for the next few weeks.

At Chicago, lemons have had a good steady demand. The market was firm and stock small. The orange supply was rather light and prices good. As the season is now rapidly growing to a close, all kinds of citrus fruits will undoubtedly bring good prices till the next season opens.

New York.

Sales of California fruit on Monday were six cars of oranges and one car of lemons and a car of grape fruit. Market ruled a little lower on nearly all grades on account of poorer fruit. Good qualities were about as high as last week. Lemons brought the same as last week, while grapefruit was a little lower, due to the fact that there was more offered than the market would take at the price at this season. Old Mission, fancy, brought $6.39 per box, average. A car of Independents, fancy ,from Highlands, brought $3.26 average per box. Stag, fancy, from the A. C. G. Exchange, Azusa, brought $5.10 average. In other brands, Pointer, choice, A. C. G. Exchange, averaged $4.16 per box, and Hunter, standard, from the same exchange brought $2.91 average.

Old Mission, fancy, grapefruit, from Fullerton, averaged $3.15, while the same fruit from the D-M Exchange, choice, brought $9 for the highest and averaged $8.95 per box. Lemons from W. S. Corwin, Highlands, brought $5.42 average, while Warrior, extra choice, from the Stewart Fruit Co., at Fernando, averaged $5.72.

On Tuesday the offerings were liberal, and no strictly fine fruit was offered. Five and a half cars of oranges and about one and a half cars of grapefruit were sold. It is expected that better prices will rule the balance of the week as some better grades of fruit are expected and the weather is favorable. Stag, fancy, Valencias, from the A. C. G. Exchange at Azusa, averaged $4.41 per box. Hunter, standard, from the same place, brought $3.31 per box. Our Monogram, from the C.C.U., Redlands, averaged $4.26. Ocean, extra fancy, Moffat Fruit Co., Rialto, averaged $4.04 per box. Some navels from the exchange at Glendora were Pointer, choice, with an average of $3.25. Grapefruit seemed to be considerably lower, the highest average was Rialto, fancy, C.C.U., which brought $3.15.

Wednesday's orange market recovered its old prices on four cars sold. A car of lemons from the Arlington Hts. Fruit Co. sold very high, the average being for fancys, $7.01, and extra choice, $5.66. Lemons are scarce, but oranges have been in over supply. Michigan peaches are coming in plentifully, which hurts the sale of fruit.

Boston.

On Monday the Citrus offerings of California fruit at the auction included four cars and one car of grapefruit. Late Valencias brought from $2.55 to $5.35; Jaffas, $3.25 to $5.30; grapefruit, $2.50 to $5.25.

Philadelphia.

Three cars were sold at this market Monday. aFncy Valencias brought $4.35; choice, $3.50; and standards, $2.75.

CITRUS SHIPMENTS.

The total citrus shipments for the season have been 28,906, of which 2845 were lemons.

Green Fruit.

The shipments to eastern points by the California Fruit Distributors continue heavy. Last Saturday seventy-one carloads were consigned to eastern cities. Boston and St. Paul held special sales Saturday to take care of the fruit. At Boston a car from Red Bluff brought gross $1214, although part of the fruit was over-ripe, while at St. Paul a car from Vacaville grossed $1139, and a car from Santa Clara grossed $1107. Both cars had considerable overripe and decayed fruit.

It is always easy to rejoice in afflictions if someone else has them.

CARROTS FOR THE TABLE.

In Country Gentleman I find the following timely paragraph: "There are not many people in this country who get as much good out of carrots as they ought to. This is not a popular vegetable for table use in America, the chief reason being that the roots are always allowed to grow too long. They become large, woody and strong. In Germany, where carrots are much more used, the small varieties, like Scarlet Forcing, are usually grown, and these are boiled and eaten when they have not reached more than half size. They are usually boiled until they are tender, and then served with cream sauce, or else they are baked in the dish with a roast of beef. Good, tender, halfgrown carrots served in this way are delicious. This vegetable ought to be popularized in America." I wish to emphatically endorse every word of this. Although I spent nearly a quarter of a century of my life in Germany, however, I never knew how good a dish of carrots can be until we had the half-grown roots cooked and served with cream sauce. Young carrots are also excellent to serve boiled with green peas. Any of our standard varieties of scarlet carrots will do so long as they are used while young and tender. We have to sow seed repeatedly during spring and summer in order to have a succession of half-grown roots, but it is well worth while to take pains to have them thus during the entire season.—Farm and Fireside.

IN WOMAN'S BREAST

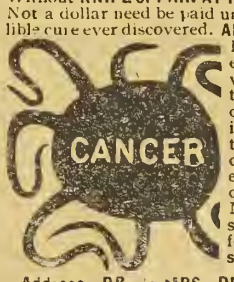
ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.



Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.

Please Send to Some One with Cancer

When writing advertisers mention Cultivator.

Santa Fe

Back East Excursions

ROUND TRIP TICKETS TO

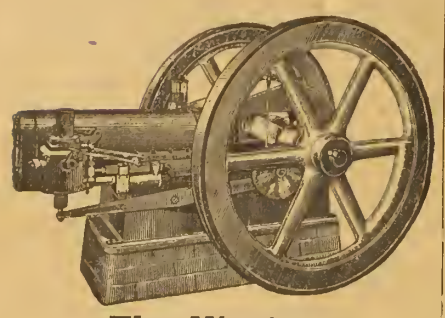
Chicago	$ 72 50
St. Louis	67 50
Memphis	67 50
New Orleans	67 50
Kansas City	60 00
Omaha	60 00
St. Paul	70 00
Minneapolis	70 00
Duluth	72 50
Fort Worth	60 00
New York	108 50
Boston	109 50
Philadelphia	107 50
Baltimore	107 00
Washington D. C.	107.00

ON SALE
August 15-16-24-25.
September 7 8-9-10-11-16-17.
Good for 90 days.

DENVER AND RETURN, $55.00
ON SALE
August 10-11-12-30-31.
Good for 40 days.

These tickets are all honored on
The California Limited

From Los Angeles Times, Wednesday, August 16, 1905:



The Western Gas Engine

LOCAL FIRM GETS PLUM.

Western Gas Engine Co Given Contract for Motor Machinery at Yuma Dam.

Complimentary to Los Angeles and Southern California, as recognized factors in the manufacturing field, the New York Engineering Company, which has the $800,000 contract for constructing the government's reclamation project above Yuma, has determined to use gas instead of steam in the immense work of water excavation at the Yuma damsite, and has ordered nine Los Angeles-built engines for that purpose from the Western Gas Engine Company of this city.

The supervising engineer of the New York concern, C. G. Young, intended to utilize steam in this pump work, but during a recent visit in Los Angeles he was convinced by tests that the gas engines manufactured by the local firm named would be far more advantageous than steam engines, both in power and economy. This recognition by New York of Southern California's machinery-manufacturing ability is keenly appreciated here.

NOTE.—The above news item chronicles the greatest victory every achieved by a California manufactured product. When the most famous expert engineers of this country, and in fact in the world, declare the Western to be the most reliable, substantial and economical power for this most important work, in preference to all other gas engines, East or West, and even in preference to steam, it puts a certain value upon the Western Gas and Distillate Engine that should make it the exclusive choice of every user of power. Numerous other gas engines recognized in this market and known to these engineers, were not even considered, on account of their known unreliability.

Much of the work will be done with steam, as we were unable to furnish within the time specified all of the engines wanted, but these nine, most of them of large size, will all be delivered within 30 days from the receipt of the order. These engines will be run with California No. 2 distillate.

WESTERN GAS ENGINE CO., 908 to 932 No. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

$800 Webster Gasoline Engine

Good as new, for $600. (Hardly used.)
Fifteen to Eighteen Horse Power.

Gray, Lyon & Co. - Riverside, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

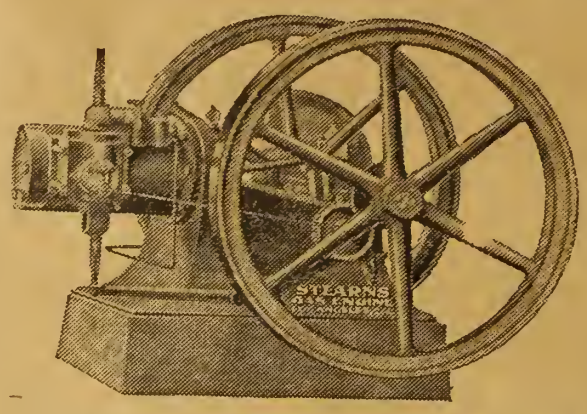
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

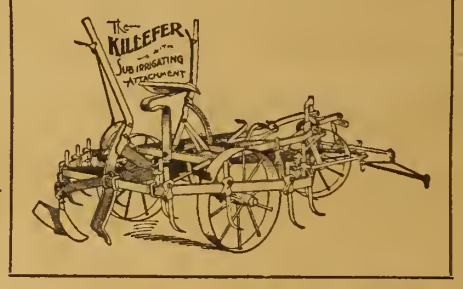
ROOFING SHEATHING BOX LINING TRAY PAPER for Drying Fruit and FLUME LINING — PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

30.5

California Cultivator

LOS ANGELES SAN FRANCISCO

SEPTEMBER 8, 1905

E. POLYANTHEMA.

E. CALOPHYLLA.

The above cuts show the appearance of flowers and seed capsules of two valuable varieties of the Eucalyptus. They both grow hard, close grained wood and are most valuable for general uses. The importance of the Eucalypts as producers of oils, timber, fuel, ornamental uses, reclamation of waste places, sanitary effects, together with the fact that they are the most rapid growing trees in the world, cannot be overestimated.

CIRCULATION EXCEEDING 10,500

PETALUMA'S FAMOUS POULTRY SUPPLY HOUSE

Retail Department of the Coulson Poultry and Stock Food Co.

INTERIOR VIEW OF STORE AND SHIPPING DEPARTMENT OF COULSON'S POULTRY AND STOCK FOOD COMPANY.

The feeds are prepared on lower floor, and after they are all prepared, are sent up to the shipping department by means of two electric elevators, and all day long the men wheel out truck load after truck load of Coulson's Egg Food and Coulson's Chick Foods—hundreds and hundreds of sacks, going to many different destinations—some going hundreds of miles south, some hundreds of miles north, some way east, and some across the water to the islands. Truly, it is a wonderful business, and it certainly must be a good feed. Coulson's Chick Feed, Coulson's Egg Food for Laying Hens, Coulson's Molting Food, etc.

Petaluma, California, known as the Egg Town or the White Leghorn City of the World; called so because of the millions of White Leghorn Chickens raised around there.

PETALUMA, CAL., is known as the greatest poultry center in the world. There are chickens by the million—nearly everybody for miles around is engaged in raising poultry. In taking a poultry census it was found that there was at one place, 35,000 laying hens in one square mile, and taking in a radius of 12 miles around Petaluma, there are about one million laying hens. There are many large poultry farms of 200 and 300 acres, and they will have from 3000 to 6000 laying hens, and they gather in eggs by the thousand.

There was shipped out from Petaluma, during the year 1903, 3,407,334 dozen eggs, and during the year 1904 three and a half million dozen, and, this does not include the millions of eggs that were placed in incubators, for there are hundreds and hundreds of poultry farms near Petaluma, and all have their incubators. Some have incubators to hatch out over 5000 chicks at a time, and on some places they will hatch out from 20,000 to 50,000 chicks, or more, each season.

To feed all these chickens it requires about 5000 tons of feed per month. This feed is brought in by railroads, boats and steamers. The Coulson Co. mix these feeds together, using certain proportions of each kind, so as to make a balanced ration, or proper feed for the fowls. The mixed feed for laying hens is put up in feed bags and is called COULSON'S EGG FOOD. Two kinds of feed is prepared for little chicks. The cheapest kind is made of ground grains and animal meals, and is called Coulson's Growing Chick Feed, and the best kind is COULSON'S SPECIAL Chick Feed, which is all granulated pieces of cracked grain, seeds, and tiny pieces of dried meats, granulated bone, etc.

The Coulson Co. is supplying the feed for these large and successful poultry farms, and, of course, it must be the best feed to produce such good results. Coulson's Poultry Food is now shipped to all parts of the Pacific Coast. Ask your feed dealer about it.

ANOTHER VIEW OF RETAIL DEPARTMENT OF COULSON'S POULTRY SUPPLY HOUSE.

Coulson's No. "3" Condition Powders for poultry—some for hens, some for little chicks, some for horses, some for stock of all kinds. Incubators, Lice Killers, Sprays, Disinfectants, Poultry Remedies, Roup Cure, Cholera Cure, Remedy for preventing little chicks from picking each other, etc.

If you want some good things to help your fowls, we can supply you. Send for our catalogue and let us hear how you are getting along with your poultry, chickens, turkeys, etc. Write to us now, while you think about it.

The home of Coulson's Poultry Food Co., showing exterior view of factory building on upper Main street, opposite the beautiful plaza.

Notice the big truck loads of Coulson's Egg Food and Coulson's Chick Food and also the hundreds of sacks piled up on the sidewalk ready for shipment and still more to come, for there are from 330 to over 400 sacks in a carload, and shipping 2 or 3 carloads in a day is common.

Feed your hens Coulson's Special Moulting Feed and you will have splendid success.

If you want to buy any feed, poultry supplies, incubators, condition powders, roup cure, lice killer, spray pumps, etc., send to Coulson Co. We can supply you at lowest prices.

Coulson Poultry and Stock Food Co., 730-732 Main Street Petaluma, California

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 10 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 8, 1905 Subscription $1 a Year

Valuable Eucalypts for the Farmer

Many Profitable Varieties May be Crown in California and the Southwest. By Ernest Braunton.

We love to sing the praises of the great eucalypt family, for they serve us in a great variety of ways, overshadowing in importance the next three or four families in order of importance. To the people of tropic, semitropic, arid, or semi-arid districts they are what the bamboo is to the Japanese, except they furnish few food products. Extensively as they have been planted, they are not yet sufficiently appreciated, for in their native land the timber and other products of the eucalypt are put to a most surprising variety of uses. To the people of California they are most generally known as a quick-growing, drought-resistant tree only, but this is only one of the many important points in considering the tree, or family of trees, which has, in many districts, practically made life bearable on our treeless plains.

* * *

Eucalypts for Timber—With our rapidly increasing population, and as rapidly diminishing timber supply—a supply wholly insufficient from the first—we will ere many years be forced to plant timber trees, because of the almost prohibitory price of timber for general uses. In various parts of California the following list of valuable timber species may be grown—not all are adapted to all section: Botryoides, citriodora, corynocalyx, crebra, diversicolor, globulus, hemiphloia, leucoxylon, rostrata, rudis.

* * *

For Dry, Hot Sections.—Under semi-arid conditions we may grow four species very well: polyanthemos, rostrata, rudis, tereticornis. Of these polyanthemos is the best except that its growth is slow, although very hardy, and therefore safe to plant generally. E. rudis is nearly as hardy and drought resistant, a faster grower, a finer looking tree and far better adapted to general use. It makes a good street or shade tree. The other two mentioned are very close in appearance and much alike in every way; terticornis being the fastest in growth. Neither of them are as hardy, however, as the first two mentioned, but will do well in all parts of the south end of the State.

* * *

For Wet Soils.—Where water stands near the surface part of the year, no doubt botryoides and rostratra will do best; citriodora and globulus are not impatient of wet fet and crebra will stand some. Even that wonderful tree for arid sections, E. rudis, will thrive in quite moist soil—a jewel of adaptability.

* * *

Hardiness.—For cold situations, E. terecornis and leucoxylon are the best, perhaps the first is the hardier; it has been known to stand 15 degrees even when small. The following will probably stand more frost than the common blue gum: Corynocalyx, hemiphloia, melliodora, rostrata and rudis.

E. Rostrata.

Then comes a considerable number, such as: crebra, diversicolor, globulus, and viminalis. Most of these latter the writer has known to withstand 20 degrees and certainly all will safely pass through 24 degrees, even if occurring continuously for some time.

* * *

Windbreaks.—Aside from their uses as timber (firewood, fence posts, etc.) eucalypts are more generally planted for windbreaks and for such purpose surpass all other trees. Any of the species suited to your particular section may be used for this purpose, but on account of their rapid and satisfactory growth when thickly planted the common blue gum forms most of our windbreaks.

* * *

Ornament and Shade.—For narrow country roads, or city streets, the writer believes the scarlet flowering species (E. ficifolia) to be the best. This tree does not, however, thrive in case stunted, pot-bound plants are used. Such trees never regain their natural vigor. When well started this species makes a good sized tree of splendid shape, and when in bloom easily surpasses all others for oranmental purposes. Experience with street and ornamental trees is forcing the recognition of this beautiful eucalypt.

For country roads in general we have a fine, pink-flowering, silver-leaved variety of E. sideroxylon. This tree should occasionally be headed to make it umbrageous and also to keep the flowers where they may be seen.

E. leucoxylon makes an impressive tree for highway alignment; in age it is quite stately, quite striking in general appearance. Its tall, smooth-barked, white trunk makes one think of a polished marble column. This tree may be headed and made more widespread, is so desired.

E. polyanthemos is a round-leaved species, the most handsome foliage of all, silver-gray in color. Where well started, with occasional summer waterings for the first year, this tree has given excellent satisfaction.

E. calophylla is a tree quite similar in appearance to the E. robusta so extensively planted along streets in the past; but here the similarity ends, for calophylla is superior in all other respects. Some claim that robusta may be kept shapely if properly pruned, but it requires more pruning than any other species—its wood is the most brittle—it certainly is not the most ornate. Do not plant E. robusta.

In some locations, notably at Redlands, the narrow-leaved form of E. amygdalina gives splendid satisfaction and for country roadsides would suit wherever the climate will allow of its growth.

* * *

Oils, Perfumes, Etc.—Many tons of eucalyptus oil are each year extracted from the common blue gum in Southern California, and all druggists report an ever increasing sale of the oil and its by-products. We have several firms who manufacture upwards of ten tons of oil per year. Owing to the fact that the blue gum is the one most extensively planted, that species is the only one used in such factories, though it is said others contain more oil, particularly E. amygdalina. On the other hand, the red gum will not yield one-fourth the amount of oil obtained from the common blue. Other than oils there is manufactured eucalyptol, salve, soap, cough drops, perfumery, etc. For perfumery the best species seems to be E. Staigeriana, the lemon scented iron bark. Its foliage and twigs have a very heavy lemon smell. This trees is scarcely known in California at present. One hundred pounds of the dry

(Continued on Page 235)

California Horticulturally

By John Isaac, Sacramento, Cal.

SILK IN SACRAMENTO.

S. R. Bellany, a young Swiss, who has spent a great part of his life among the silk producers of his native land, and understands all the details of the work, has been carrying on a line of experiments with silk worms in Sacramento and informs me that his success has been almost phenomenal. In Europe the growers always count upon a heavy precentage of loss. The worms die from various diseases, peculiar climatic conditions decimate them, and other causes reduce them greatly between the hatching and the spinning periods. In this case, there have been no losses, or they have been so light as not to be considered. The eggs he procured from Switzerland, receiving half an ounce in the shipment all of which hatched, and practically all attained maturity. Having no appliances for reeling the silk, the cocoons are of little use except to show what can be done in California with the silk worm. A large quantity of them has been sent to the Portland exhibit; masses of them are on display at the rooms of the Sacramento Chamber of Commerce and a very large exhibit is to be made at the State Fair. Certainly Mr. Bellany's experiment shows that silk can be produced here, and he states that it can be produced profitably if taken hold of in the right manner and by one who understands the business.

* * *

STATE FORESTRY BOARD.

The State Board of Forestry has been organized with Mr. E. T. Allen as State Forester, the board being composed of Governor Pardee, Secretary of State Curry and Attorney-General Webb. So far only preliminary work has been done. The vast destruction of our forests, by fires and vandal acts, has long made it evident that some action was required to put a stop to or control such destruction if we are to have any of our grand forests left to us. As population becomes denser the demand for lumber becomes greater, and at the same time danger from forest fires increase. It is largely to check this danger that the new board has been created, and full police powers have been given to arrest and punish any one transgressing its rules. It has power to appoint Fire Wardens in all the counties, whose duties will be to care for the districts for which they are appointed. These Fire Wardens have full police powers to arrest any one without warrant whom they have evidence of violating the forestry laws. Mr. Allen has already visited some of the State parks and forests and so soon as he can get the work of his office a little more in hand, he will commence the work of organization, and have the whole State properly officered before next spring. In this work he will visit all the forest sections of the State.

No part of the State will receive more benefit from this work than those which are dependent upon irrigation, for while there may be some doubt as to the influence of forests upon rainfall and climate, there can be none as to their value as conservators of moisture. A densely wooded country holds the rainfall and preserves the snow fall, giving it forth in springs and brooks all through the season, while in the same country denuded of its trees the rainfall drains off in a few hours after it has fallen and except at the time of actual precipitation, it is a dry, waterless waste. In the great work which Mr. Allen has now in hand he should have the hearty co-operation of every citizen nad be aided to the fullest extent by the supervisors of every county in which there are any forest trees.

* * *

IRRIGATION IN THE NORTHERN COUNTIES.

Two things are forcing upon the attention of the northern counties the advantages of, and we many say, the necessity for, irrigation. These are the gradual decline of wheat production and the increase of population. The former has made large holdings of unirrigated land unprofitable, and the latter has made a demand for small farms and diversified products. Diversified farming anywhere in California means irrigation. Outside of a comparatively limited area of naturally damp lands, no summer crop will grow here without the artificial application of water. In a country where we boast that we can rely upon fine weather any day for six or seven months in the year, it is unreasonable to expect that the ground will retain sufficient of the winter rainfall to carry through summer crops. It is true that in the so-called natural damp lands, summer crops—corn, potatoes, alfalfa, or vegetables may be grown without irrigation, but as a rule the great bulk of the land in the whole State is useless for such crops unless water can be applied and until this can be done these lands will remain worthless for any except the winter crops, such as can be grown during the rainy season and are out of the way before the dry season sets in. These are the grain crops—wheat, oats and barley, and it is no longer profitable to grow these, and is becoming less so year by year. This means irrigation as a necessity. Our vast wheat areas are too valuable to be abandoned, they comprise some of the best land in the State; they are no longer profitable for the only crop which can be grown upon them; it is neither feasible nor profitable to cultivate large bodies of land under irrigation. All of which means that these tracts will be cut up into small holdings and put under ditch. The work has already commenced, and more attention is being given to irrigation each season in Northern California. There is an unlimited water supply in this section and as population increases, as it is now doing with great rapidity, there will be a greater demand for farming lands—and farming lands with water. It is only a question of time when irrigation will be a matter of as great importance in the northern counties as it now is in the south.

* * *

Professor M. B. Waite, the pear blight expert of the Department of Agriculture, has returned from a trip through the orchards of the Sacramento valley and along the river and gives a very encouraging report of his observations. He states that the blight in the river orchards, the principal pear section of the State, is well in hand, and is not spreading. The effective work which was done there under the direction of the county horticultural commissioners last summer has evidently borne good results. The professor had singled out one large orchard at Marysville known as the Harkey orchard, and here Professor Smith of the University, with his assistants, have been operating during the summer, and Professor Waite says that it is practically free from the disease at the present time. The same is true of the Hawkins orchard at Anderson, another section taken for demonstrating work against the pear blight.

The professor left Sacramento last week for Chico, and thence up the Sacramento valley. From there he will visit the orchards in Oregon, Washington, and probably sections of Idaho, and then make his way back to Washington. He will return the beginning of November, with an assistant from the Department of Agriculture, and take up active work for the winter.

One of the features of the next Fruit Growers' convention to be held early in December, will be Professor Waite, who will give a practical talk, with illustrations, on pear blight and its control. He will have samples of blighted trees and show the method of cutting them and will also have a number of lantern slides showing the disease in different parts of the United States and illustrating the work that is being done against it.

It is our duty, if we can,
As life leads on from place to place,
To leave to every careworn man
The memory of a pleasant face.

Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO
When writing advertisers mention Cultivator.

RUBEROID ROOFING
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.
When writing advertisers mention Cultivator.

We Can Save You More Money
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping
J. L. BERRY SUPPLY CO., Los Angeles, Cal.
Office; 304-305 Douglas Building Phones; Home 2367; Sunset Red 2811
Shops and Yards: 860 North Main St. Phones; Home 1088; Sunset Main 1088

SHASTA ROUTE is the way to the great
SOUTHERN PACIFIC
LEWIS & CLARK EXPOSITION
Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.
$35.00 ROUND TRIP
Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles
SOUTHERN PACIFIC

RACES OF HONEY-BEES.

The different races of bees that collect and store honey in hives are few in number, and are known under the following names: The German or black, the Ligurian or Italian; other varieties are known as the Cyprians, the Egyptians, the Syrians, and the Carniolians.

The Italians, it is supposed by some, originated from a cross between the black or German and the Egyptian bees, and probably some other race or races. Be this as it may, it is almost universially admitted that the Italians are, taking them all in all, superior at least to the black or German race. Of the Italians, there are the brown three-banded yellow, and the five-banded or golden varieties. Just which of the three kinds is best is a matter as yet undecided, though the brown or dark-colored Italians are thought by many to be the hardiest as well as the mildest tempered. While the five-banded are, in the estimation of some, thought to be quite as industrious workers as either of the other kinds, they are thought to be somewhat more inclined to swarm, which is not a desirable feature, as they are quite liable to cast so many swarms as to render them of little value for collecting and storing honey. A strong colony is always best for this purpose.

There are, I believe, some two or three different strains of the black bees. As to which is the best for honey-gathering, has, I think, never been a question of much concern. In addition to the foregoing varieties of bees, it may not be improper to state that in India and the Philippine Islands there are larger honey-bees than any of the kinds named above. But as to their general characteristics in the way of real worth, very little is at present known. I think Professeor Benton of the Entomological Department of Washington, has been assigned to the task of an effort to import them to this country, in order that their real worth may be fully tested. But no matter what kind of bees are kept, in order to insure success, it is a matter of the first importance for the bee-keeper to understand the habits of bees in order that their wants may be fully supplied.—Kansas Farmer.

HOW LONG DOES A BEE LIVE.

I was called upon the other day to decide this question. Two gentlemen, it appears, had an argument about the length of the life of the honey bee, and it seems that neither held the correct answer to this question. Of course, a bee's life varies. At some seasons twenty-six days is the limit of their life, at others six months, and very many die at twenty-one days. This applies only to the worker bees. Drones are shorter lived than workers, while the queen bee has been known to live to be six years old, yet this is an exception. Most queens are past their usefulness after the second season, but may be profitable to the owner as long as life lasts. The worker bees live only twenty-six days in the working or honey season. Bees hatched after the honey season is over live from one to six months, depending on the labor they have to perform. The exact age of the drone is not known for the bees often times kill them or force them from the hive when there is a scarcity of honey or after the swarming season. Yet there are cases on record where they have lived through the winter months.

The life of the queen bee depends to a great extent on the handling by the beekeeper. If you give a queen the opportunity of laying to her full capacity the first year of her life she will exert herself so that the next season her laying powers are not one-third of what they were the first year, and the bees are sure to discover this and proceed to raise for themselves another mother or queen. Any time that a queen begins to fail to keep up the population of the hive the bees start superceding cells, and sometimes the young queen will be found in the same hive laying along with the old one. This is an exception, but I have seen it many times. The laying powers vary with queen bees, some only laying a few hundred eggs daily, while a prolific queen will lay as high as 30,000 eggs daily under some conditions. Now, if bees did not die off at an early age it would take a very large hive to hold the bees hatched from the eggs of a good prolific queen. By taking note of this many beekeepers will easily see that the queen that only lays a few hundred eggs daily is not worth keeping, for it is easy to secure one that will produce many times this amount from any reliable queen breeder at a small cost. It pays to have the best, if they are only bees.—Pacific Homestead.

BEWARE OF IRON SULPHATE.

The Illinois Experiment Station has issued a circular warning farmers against the use of iron sulphate in building up soil fertility. From it we quote:

A large amount of advertising has been done by a company interested in the sale of iron and iron sulfate, and frequently copies of such advertising pamphlets are sent with the inquiry. This pamphlet entitled, "How to use Sulfate of Iron on the Farm," contains some very absurd and misleading statements, one of which is as follows:

"With from ten to fifteen pounds of sulfate of iron at a cost of 15 cents to 30 cents per ton of manure, you can produce a fertilizer equal in value to that which will cost you from $20 to $25 per ton."

As a matter of fact there is no conclusive evidence that such an addition of iron sulfate to farm manure would increase its value sufficient to pay the cost of the iron sulfate applied. Iron sulfate as a fertilizer or soil improver is not used in practical agriculture, and it is extremely doubtful if its use would be profitable under ordinary conditions. Practically all soils contain an abundance of iron and, if sulfur ever is lacking in a soil, it could be supplied much more economically in the form of calcium sulfate (gypsum or land plaster) than an iron sulfate. In some respects iron sulfate resembles calcium sulfate, both having power to absorb and retain ammonia when applied to farm manure, and both having a stimulating effect in the liberation of plant food from the soil.

The Kentucky Experiment Station reports an experiment in which sixty pounds of iron sulfate per acre were applied for corn and as a result sixty-eight bushels of corn per acre were produced. Where no iron sulfate was applied, seventy-three bushels of corn were produced.

After reviewing the history of experiments with iron sulfate as a fertilizer and conducting an extensive series of experiments themselves in water cultures, in artificial soils, and in natural soils, Boiret and Paturel, French investigators, have reached the following conclusions:

"Sulfate of iron is poisonous either in itself or on account of the acid which it sets free in passing to the state of basic ferric sulfate. It is used to advantage, therefore, only for producing certain secondary reactions (as a stimulant). In a calcerous soil, sulfate of iron transforms rapidly, giving sulfate of lime (gypsum) and oxide of iron. Almost any quantity of sulfate of iron may be applied without hindering growth to any considerable extent providing sufficient lime is present and planting is not done until several months after the amendment (stimulant) is incorporated in the soils. Sulfate of iron, like plaster (gypsum) acts principally in permitting the diffusion of potash, it may replace plaster for legumes and certain outer plants like requirements, such as potatoes, beets and grapes. Aside from these special cases, however, it is not believed that in practice anything is to be gained by adding this substance to formulas for manures."

As a matter of fact, gypsum, or land plaster, itself, acts almost entirely as a soil stimulant, and as a very general rule, the use of this plaster, or iron sulfate, or other plaster substitutes, as soil stimulants, should be avoided. If the soil is deficient in any essential element of plant food, it is much more profitable in the long run to increase the supply of the deficient plant food element itself, whether it be nitrogen, phosphorus or potassium, than it is to pay out money for soil stimulants which force the soil to give up more plant food than it otherwise would, and ultimately leave the land in a more impoverished condition than before the stimulant was applied.

Mrs. Nexdore—I've been thinking of having my daughter's voice cultivated. Would you? Mrs. Pepperey—By all means, if you have tried every other remedy.—Philadelphia Press.

Blue Gums

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity

Geo. B. Warner, Santa Ana, Cal.

INCOMPARABLE

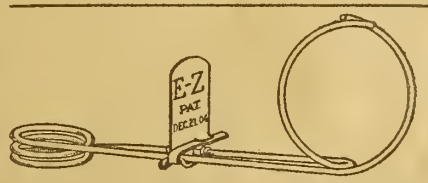
The California Limited Log-Book:

Coming East, March 28, 1905.

The Santa Fe is the best train for the West. The train as well as the management cannot compare anywhere on earth.

MRS PHIL E. NETTERVILLE,
Watseka, Ill.

SANTA FE IS THE WAY



Ask Your Dealer
for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Union Bank of Savings

RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits 4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.

When writing advertisers mention Cultivator

Cylinders
In Fifty sizes and lengths
For Every service
AMES
Galt, Cal.

The Duty of Water

By J. B. Neff, Anaheim, Cal.

The duty of water is usually defined as being the amount of water necessary to produce a crop, and varies according to the kind of crop and the soil, as well as the climatic conditions.

The unit of measure for reservoirs is the cubic foot, but this is too small for convenient use, and the acre foot—or quantity which will cover an acre one foot deep, is more generally used for large bodies of water. The term "acre foot" is to be preferred as it bears a direct relation to areas to be covered with the water. The time unit is usually one second, and flowing water is measured by "second feet" or the number of cubic feet passing a given point in one second of time. Measurement is frequently expressed in miners' inches, but a miner's inch is a variable quantity, though 50 miner's inches equals one "second foot" in California, and a constant flow of 50 miner's inches for 24 hours will equal two "acre feet." 100 miner's inches will cover one acre 2 inches deep in one hour.

Experiments have been made to determine the amount of water necessary to produce crops of different kinds. Among the most important of these are the experiments of Prof. King, of Wisconsin, who has found that it requires from 300 to 500 pounds of water to produce a pound of dry material. That is, that to produce a ton of hay it is necessary to have from 300 to 500 tons of water, which must be supplied by rain or irrigation. Enough water to cover an acre one inch deep will weigh about 113 tons, so that if one ton of hay is to be grown on an acre there must be from 3 to 5 inches of water applied at the proper time. The amount used is often largely in excess of this, as rains do not always come at the time nor in the quantity that will do the most good. The amount of water to be used varies with the kind of crop that is being grown; thus the water required to produce one cutting of alfalfa hay on one acre will be sufficient to produce a crop of corn on five acres. When it is considered that from four to six crops of alfalfa are taken from the same land every year it will be seen that a large supply of water must be at hand to grow alfalfa successfully. The quality of the soil being sandy loam and the climate being that of the southern coast counties, with 15 inches of rainfall, it may be said that corn will require, in rain and irrigating water, 20 inches to produce a crop, a walnut orchard with trees 12 to 18 years old will need 25 inches, an orange orchard in full bearing should have 30 inches and an alfalfa field will not do well on less than 60 inches for the season. The amount necessary on cultivated orchards will be greater or less in accordance with the amount of cultivation they receive; the better cultivation the less water will be needed.

Soils that are sandy will require more water, but where there is danger of leaching, the water should be applied in smaller quantities and oftener, while the heavier soils that are more retentive will need less water and it can be applied at longer intervals.

Very dry climates require more water and in some of the Arizona valleys where crops with shallow roots are grown, it is necessary to run water on the ground every eight to twelve days.

It is best to begin the season with the ground thoroughly wet and if the rainfall should be insufficient the irrigation should be done before the weather becomes hot, so as to avoid excessive evaporation. The depth of water required to soak the soil varies, but it has been found that one inch of water will saturate dry soil about three inches deep, though moisture will in a few days reach several inches farther and give the ground the appearance of being wet when it is very much below the point of saturation and would retain considerable additional moisture.

When the ground is first irrigated large quantities of water are sometimes needed to saturate and settle the subsoil. This settling of the subsoil is sometimes so great that it is necessary to go over the tract and regrade it. The writer remembers one particular tract which, when irrigated for the first time was so uneven that there were places where it was not possible to drive a buggy across.

The early irrigators used water wastefully in most cases, but as the country becomes more thickly settled and water becomes more valuable, better methods are brought into use and the duty of the water becomes much higher.

CENTRAL CANAL WORK.

The Glenn Transcript gives the following account of the work on the extension of Central canal, in the north central part of California:

"All is activity now along the line of the mammoth canal which will distribute water to thousands of acres of land in Glenn and Colusa counties. The beginning of the work marks the opening of an era of prosperity for this section of the Sacramento valley.

At the present time there are sixty men with thirty-eight four-horse teams working on the big ditch. Two camps have been started on the Glenn ranch where new work is being done. Three and a half miles of canal will be constructed to join the broken ends of the canal, the rights of way having been secured only recently. A third camp is located at St. John. The force of men and teams is being augmented daily and advertisements are out calling for two hundred more men.

Later on more men will be put to work. When the work is on in full blast, five hundred men will be on the payroll of the company.

Two immense graders, propelled by traction engines, will be started this week. Each one of these machines will do the work of a forty mule team and will hasten the completion of the work. They will move south on the canal. The surveying force is now about five miles out from town grading the old canal which must all be worked over, and some parts of it must necessarily be abandoned.

The contract for building the 800 foot crossing at Stony creek will be let at once and next week will see a force of carpenters and a pile driver at work there. This feat of engineering will cost the Canal Company $50,000.

The attorneys for the company say that the condemnation suit against the Herbert Kraft company in Tehama county, will be tried early next month, and as soon as a judgment is entered in the Superior Court, the new headgate and the new canal will be started. Three steam shovels will be used on this part of the work. They will be operated by two shifts, working day and night. At this rate the new part of the canal can be finished in about ninety days.

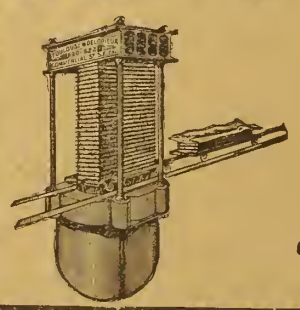
Next spring we will have water coursing down through the canal at least as far as Willows, if not down to Cortina creek in Colusa county. This system will be different from other irrigating systems in that water can be had every day in the year.

This means a green country all the year around and prosperity on every hand. From now on our county will grow, and the growth will be fast, for all that is needed to make our land as productive as any in the world is water, and this we are sure to have. In a few months Willows will be more deserving of the appellation of "Queen City of the Plains."

Salt should be eaten with nuts to aid digestion.

WINE AND OIL MACHINERY

A SPECIALTY



Presses for All Purposes.
Complete Plants Fitted Out.

TOULOUSE & DELORIEUX

618 Commercial St. *San Francisco*

Catalogue Upon Application

When writing advertisers mention Cultivator.

STUDEBAKER FRUIT WAGON

STUDEBAKER WAGONS

ARE STANDARD THE WORLD OVER

When quality is the consideration there is only ***one selection.*** Studebaker wagons stand upon a reputation established by quality. They are not only the best, but they are sold at a price which is within the reach of every purchaser. Studebaker wagons are made by ***experienced artisans.*** They are built upon the most improved lines with the latest and best machinery. Everything is ***first-class*** from tongue to tail board. You will make no mistake by purchasing a ***Studebaker,*** but you will likely make a mistake if you buy any other kind of a buggy or wagon. We have a ***complete line*** and would be glad to send you our catalogue to show you what we carry in stock. A ***Studebaker*** will always give you ***entire satisfaction*** and meet every demand made upon it. We are the local agents.

Newell Mathews Co. *200-202 North Los Angeles Street* *Los Angeles, California*

When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

EFFECT OF HEAT ON BLACK SCALE.

The hot weather of the last days of August have undoubtedly destroyed some of the young black scale, but it is not best to depend upon the heat to reduce the scale in numbers to a point where they will not require treatment. Nearer the coast, where there is a high degree of humidity in the atmosphere and low temperature, the scale seems to thrive better and are less liable to be affected by hot weather than in those inland districts with higher elevation, dry atmosphere and high temperature. The latter conditions are not favorable for black scale, and some years there is but a light stock of scale in the orchards of the higher foothills, especially on young, open-topped trees.

* * *

Injury from Spraying on Hot, Clear Days.—In last week's Cultivator we warned orchardists against spraying during extremely hot weather. An instance has just come to my notice where fruit and trees were injured by spraying during the late hot spell.

* * *

PURPLE SCALE.

The purple scale belongs to the armored group of scale insects and was brought to California from Florida on nursery stock in 1889. There are no effective parasites which attack it in this country. The scale covering of this insect is so tough and dense that it is impossible to destroy the eggs by any treatment that will not injure the tree. This insect attacks citrus trees exclusively, is a rapid breeder, practically continues to breed throughout the entire season, and when once an orchard is thoroughly infested it is a permanent fixture. It spreads slowly, as the young larvae only moves about for a short time after they are hatched out. This scale insect has gained a permanent foothold in at least three of the counties of Southern California.

Notwithstanding the strenuous efforts that have been made, the territory occupied by this scale has been enlarged from year to year. Purple scale not only is a draft on the tree but infests the fruit, in many cases to such a degree as to render it unfit for market. The expense of treatment is very much more than that of any other pest which infests citrus trees, requiring two or more treatments in a year to effectually control it. Spraying has not been a decided success and it requires two fumigations, twelve weeks apart, to catch the larvae of the different generations. Like red scale it requires from twenty-five to thirty-three per cent more cyanide than the black scale.

The infected fruit is a means of infection of new districts. Fruit peddlers who handle this fruit are a source of danger in carrying this scale from one section to another. The horticultural commission of Los Angeles county has held up and destroyed infected fruit in the hands of peddlers and fruit dealers in many of the towns and cities of Los Angeles county.

In one prominent citrus fruit growing district of Southern California the local horticultural inspector has in the past year discovered twenty infections of purple scale, many miles from any district known to be permanently infected with this scale. These infections in every case included two or three trees, and the work of disinfection has been thoroughly carried out with the object of exterminating the scale, which will be ultimately accomplished, even if the infected trees are destroyed.

But for the commission and its work of quarantine and disinfection there is no doubt but that the purple scale would before this time have seriously infected the whole citrus section, as this scale can be widely scattered by the means of infected fruit and nursery stock.

A PROFITABLE LEMON SEASON.

C. C. Teague, manager of the Limoneria grove at Santa Paula, stated to us the other day that his company had sold over forty cars of lemons this season at an average of $1600 per car f. o. b. The best price received for a single car was $2254 f. o. b. This car contained 312 boxes, one-third of which were seconds, which cut down the total about $75 from what it would have brought had the lemons all been first grade.

From ten to fifteen cars are now going out of the State daily, and this number will probably increase during the next few months, and while the prices may not rule as high as during the past few weeks, yet Mr. Teague thinks all lemons will bring a good profit for the balance of the year at least. Of course the high prices have taken every car out of the State that was cured, so that only lemons on the trees now can supply the market.

THE BROWN ROT.

Lemon growers will be rid of the brown rot by next season, if the experiments now being made prove as successful as they promise. For some time the State University has been carrying on a series of experiments at the Limoneria ranch, Santa Paula, under the direction of Prof. Smith, and the disease has been found to be of a virulent fungus character. Experiments have progressed far enough that it can be said a solution has been discovered, that can be made cheaply enough to be used in washing lemons, which will effectually kill all spores of the fungi, thus preventing its spread. This discovery will be of immense value to lemon growers, as it is estimated the losses this season from the brown rot will amount to $150,000.

FUNGUS FOR BLACK SCALE.

Dr. S. M. Woodbridge, of South Pasadena, is sending out the following circular to a few citrus growers, and asks the Cultivator to give it wider publicity. The Doctor does not claim for his fungus that he can eradicate the scale, but he believes he has something that will help.

"During the summer of 1898 I found on trees in San Bernardino county, some black scale (Lecanium oleae) that were evidently diseased. I brought samples of these scales to our laboratory in Los Angeles and had Prof. McClatchie make cultures of the fungus, which was apparently getting in its deadly work. Subsequently many cultures of this fungus were made and I distributed them widely through our scale infested districts. In some districts the work was quite effective that season. Mr. A. B. Smith, of San Dimas, had his ranch cleaned up by this fungus. In other places the disease seemed to make little headway. Believing that a disease is by far the cheapest method of getting rid of our scale pests, this department has persistently continued to make cultures annually, and has distributed them widely throughout Southern California. These have thrived, more or less indifferently, for a short time and then disappeared. This year the results were quite different and I find that this fungus disease has been doing very effective destruction in many localities, and it would appear to have become acclimated and I trust has come to stay, although it seems to have been "winter killed" for several successive years.

"The object of this communication is to get your assistance in the perpetuation and distribution of this fungus disease of the black scale.

"The fungus is grown in Petre dishes, i. e., cultures are made of it on pieces of sterilized bread about two inches square. When the cultures are made or at the proper time thereafter, three of them are mixed with a barrel of water at a temperature of not less than 70 degrees Fahrenheit. Such a barrel containing say 50 gallons of water, is enough to spray 1600 trees. I have done this by merely spraying, through an ordinary hand syringe, say one-half pint of the mixture on a tree, every fifth tree is enough to put the spray upon. Being a fungus and very light it is quickly distributed to its proper host and does effective work under proper conditions. Just what these favorable conditions are must be further determined and herein we need the growers' assistance.

"The fungus disease affects only, so far as has been observed, the young scale after hatching and before leaving the old shell, but if one of the brood is attacked all seem to get the disease and die. To detect the presence of the disease turn up an old scale and if a white fungus is found with the aid of a glass, on the edges of the scale and on the young ones, you will know the disease is present. Any one sending samples to me at South Pasadena, can have them examined and a culture returned to him after the winter rains are over. The cost of perpetuation and distribution of this disease is merely nominal on an acreage basis.—S. M. Woodbridge.

SOME BIG LEMON PRICES.

The Southern California Fruit Exchange furnishes the following figures of banner sales of lemons during the year ending August 31, 1905:

	Total Boxes	F'cy	Ch.	St'd	Net Amt. Recd F.O.B.
One Car	312		229	83	$2252
do	312	40	239	33	2232
do	312	238	63	6	2217
do	312	27	257	28	2151
do	312	184	116	12	2078
do	312	201	91	20	2067
do	312	226	60	7	2048
do	312		253	59	2031
do	312		312		2006
do	312	141	131	40	2000
do	312		251	61	2141

Also:

12 cars	Lemons	that	netted	bet.	$1900 and $2000
13 "	"	"	"	"	1800 and 1900
13 "	"	"	"	"	1700 and 1800
19 "	"	"	"	"	1600 and 1700
21 "	"	"	"	"	1500 and 1600
28 "	"	"	"	"	1400 and 1500
46 "	"	"	"	"	1300 and 1400
46 "	"	"	"	"	1200 and 1300
49 "	"	"	"	"	1100 and 1200
58 "	"	"	"	"	1000 and 1100

The first car noted above, which brought $2252, was for C. D. Hubbard, of San Fernando, and gets close to the price we quote in another place, received by the Limoneira Company.

The above record for last year is not complete, for the reason that on quite a bunch of cars shipped prior to September 1st, report of sale has not been received.

Lime Your Lands

LIME, $2 50 PER TON

Time to buy. For particulars write
Home Phone 1066 H. B. MATTHEWS. RIVERSIDE, CAL.
Note—Business solicited only between Los Angeles and Redlands and Riverside.

When writing advertisers mention Cultivator.

20,000 Orange and Lemon TREES

Strictly First-Class

Pollard Bros.
ALHAMBRA, CAL.

When writing advertisers mention Cultivator.

Peas 500,000 Pounds Two Hundred and Fifty Tons **Peas**

Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Hoegee's HAVE THE GOODS

Khaki Suits for Comfort
Laced Boots for Hard Wear
Tents for Wise People

Hoegee's Canvas Irrigating Hose
Saves the Water—Wears Well—Costs Little

NEW CATALOGUE GUNS AND AMMUNITION
Send For It

OTHERS—Outing, Tent, Athletic, Fishing

The Wm. H. Hoegee Co.
Incorporated

Phones—Exchanges 87 138-142 So. Main St., Los Angeles

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

SEPTEMBER VEGETABLE CALENDAR.

A few more sorts of vegetables may be planted in September than was advisable during August. The hottest weather is now past, and we must begin to look forward to winter crops. The following may be planted: Beets, beans, cabbage (seeds or plants of early sorts), carrot, cauliflower, (seeds or plants,) kale, kohl rabi, lettuce, onion, parsnip, peas, radish, spinach, turnip.

THE CAROLINA JESSAMINE.

This native climber is not appreciated in California as it should be. If planted in whole or partial shade it does very well, but in the open our summers prove too dry for it. The flowers are in large clusters and of very bright yellow, extremely fragrant and contrast finely with the smooth, shining leaves. It is native from Virginia to Florida and a southern nurseryman says of it: "Not cultivated to the extent it desrves. Will grow on any land, rich or poor, wet or dry. Quick growing and for several weeks in spring literally covered with its lovely, fragrant yellow flowers."

Its catalogue name is Gelsemium sempervirens.

GARDEN NOTES.

Plant some freesias, and the earlier they are planted the better. They are easy to grow, and their flowers are exqusitely fragrant.

Seed-saving is one of the most fascinating of the gardener's occupations, but if many blossoms are left they lessen the plant's vitality and shorten its period of bloom.

Plants raised in beds, baskets, vases and window boxes need twice as much water as plants grown elsewhere. Soak them thoroughly in dry weather.

A new lawn can be kept in much finer condition if the grass is cut so often that it will not need raking. The clippings will serve as a mulch to protect the roots from the hot sun.

Plant choice petunia seed this month and have some blooming plants for your winter garden. A few petunias will keep a garden filled with beauty all winter.

A good many plants are better and stronger this dry weather if they are given a little mulch, which will help retain the soil moisture. Mulch your sweet peas and lillies.

Perennial seedlings may be started during September for next year's blooming, and they will do quite as well, and many varieties even better, than when started into growth early in the spring with the annuals.

If chrysanthemums are troubled with small black ants or other insects try spriukling them with tobacco tea or tobacco dust. The insects may thus be destroyed before the flowers bloom.

If old pansy plants are cut back, almost to the roots about the middle of September, when the hot dry season is over, the plants send up the growth which bears fine large flowers, if the soil has ben enriched. The bed that has been supplying quantities of flowers throughout the spring and summer should have all fading flowers picked off, and a liberal top dressing of manure. It will soon show renewed vigor and beauty. In the late autumn better set out new, young plants.

INFLUENCE OF NURSERYMEN.

The nurseryman, the manufacturer of nursery stock, like the manufacturer of boots and shoes, hats and clothing, shapes the fashion of the day. In this regard they carry a heavy responseibility, they can shape public demand to a remarkable degree. For instance, thousands, perhaps millions of quick-growing, short-lived, imported trees that are only fitted for temporary effects, have been sold for street trees, boulevards and parks. It is true that the tree has its place, may be used for quick effects, for a filler between slower growing, permanent trees, but too often it is set out as a finality. This is but one of the striking instances where the nurseryman can do much to mold public opinion along right lines bearing upon public utility and public beauty.

Along the line of esthetics in planting, how many lawns have been rendered unsightly by the planting of vegetable monstrosities in the form of cheap and distinctly ugly weeping trees. Perhaps the weeping willow is the most obstrusively objectionable; it is omnipresent in the smaller towns. Among the more permanent and desirable forms are the drooping beeches and elms, but even these can be over done, especially in a land of evergreens like our State. Nurserymen should not yield to the demand for quick results and propagate for sale cheap, short-lived shade trees, but should use their influence in molding public taste in the matter of lawn and street planting so that trees shall be set more for their intrinsic qualities of beauty and endurance, rather than from the standpoint of the incongruous and curious.

A pinch of soda in the water will keep the flowers fresh much longer than ordinarily.

The Carolina Jessamine.

IMMUNITY FROM FUNGI.

An Australian agricultural station has lately made some interesting experiments to render immune from parasitic fungi plants of tomato and cucumber. Three hundred cucumber seedlings and an equal number of tomato seedlings were subjected to experiment, fifty of each being used as check plants. When the seedlings were a fortnight old, the cucumbers were grouped round eight large cucumber plants badly affected by authracnose and "wilt." and the tomato seedlings were ranged about tomato plants bearing numerous blotches on the leaves, caused by "leaf blight." The specific course of treatment consisted of watering the plants every third day with a solution consisting of 1 part of sulphate of copper in 7000 part of water. The check plants, which were not watered with the copper solution, were indiscriminately mixed with the treated plants. The watering was done during the afternoon, and the quantity used for each plant was sufficient to soak the soil thoroughly.

After a month, all the treated tomato plants were perfectly free from disease. On the other hand, one or both cotyledons of thirty-four cucumber plants showed blotches of the disease. At the same time a considerable number of untreated check plants, both cucumbers and tomatoes, were badly diseased. At this stage, both treated plants and checks were sprayed with water containing the spores causing their respective diseases, and this was continued weekly until the end of the experiments. Under this drastic treatment, all the untreated check plants, both cucumbers and tomatoes, were badly diseased during the following two weeks.

After six weeks' treatment the strength of the solution was increased to 1 part of solution of copper in 6000 parts of water, and the soil in which the plants were growing was soaked every fourth day until the end of the experiments, which lasted for eleven weeks. At the expiration of this period, both cucumber and tomato plants were bearing a good crop of well-grown mature fruit.

Not a single one of the tomato plants treated with the sulphate of copper solution showed a trace of disease, and in the case of the treated cucumber plants the disease never extended beyound the cotyledons (elementary leaves) and this, notwithstanding the fact that badly diseased plants were growing amongst the treated plants throughout the entire period. In addition to this, the treated plants were sprayed several times with water containing spores of the fungus parasites.

Scutellista's Latest Victory

By Fred'k Maskew

So much attention and publicity has been given to the achievements of this ubiquitous little friend of the horticulturist that it is with a feeling of diffidence that I offer to you this article. If, however, this apparently acquired taste can be cultivated and developed, it will prove to be the greatest boon the science of applied entomology has offered to the florists of this country.

On Saturday, September 2d, I was called to investigate the condition of an orange tree in a house yard on Cedar street, Long Beach. "The condition" consisted of the most extensive infestation of Lecanium hemisphaericum that I have ever seen upon a citrus tree. To determine the question of proper treatment I removed one of the scales to study the stage of development. To my surprise I found it contained a full grown larvae of some chalcid. This finding was repeated again and again; eventually I found a well recognized pupae, and continuing the search I was finally rewarded by having the adult scutellista emerge from an inverted scale into my hand. In this instance it was not a question of an isolated case of parasitism, but complete and thorough, typical of the work of the scutellista, and characteristic of some of its best efforts uopn Lecanium olea.

Lecanium hemisphaericum can be found in probably every citrus orchard in this country, but it never becomes, or is even considered a pest. It is upon the many different varieties of ferns cultivated under lath and glass that it becomes a serious menace and source of great financial loss. Prior to the introduction of scutellista the writer in an experience covering many years, has never seen an instance of internal parasitism upon this insect. The extreme susceptibility of some ferns to the effects of gas, and the wide range of resistance on the part of the foliage to fumigation, makes even this best of treatments a precarious remedy. To the inspector who has wrestled with the combination of this scale pest, an order of mixed varieties of ferns and a shipping certificate, this latest effort on the part of scutellista is a source of unmixed joy, and by the florist who in the past, despite the use of knife and syringe, has seen his ferns become disfigured with smut, it should be exploited, promptly and persistently.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS.
VINES, SHADE TREES, Etc
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

VETCH AS A FODDER.

One of the most promising lines of experimental work at the Oregon Experiment Station is that of breeding up the common vetch. We do not think that any other experiment station is breeding the common vetch. This forage plant has already proved itself the foremost in value of annual forage plants for western Oregon. Those who have seen the magnificent crops of common vetch obtained on good land in the Willamette Valley and who know how valuable the forage is, either fresh or cured, may think there is little need of improving it. The common vetch, however, shows unusual adaptation to improvement by the efforts of the plant breeder. Plants have been grown this year at the Oregon Experiment Station which show 25 per cent of protein in the dry matter. The work of the station for the past two or three years shows that the common vetch is richer in protein than even alfalfa, and that strains are being developed which will contain one-half more protein than alfalfa. A strain of vetches which will yield from three to six tons per year of hay containing 25 per cent of protein in its dry matter will be literally worth millions to Oregon. Bran contains only 15 to 16 per cent. Oil meal, the richest in prottin of foods given to stock, contains about 33 per cent. Up to the present time the growing of vetches has been confined mainly to dairy farms, but the vetch will be almost equally valuable to the farmer who is raising cattle for market. It is protein which makes the growth of the animal while the starchy elements in food put on the fat.

THE PARCELS POST.

Is this country so progressive after all? Here is slow old England handling all sorts of packages and produce through its postal system, but obliged to make us turn them over to our express companies when sent to addresses in the United States, because our postal department is too far behind the times to deliver them. Yet when our parcels are mailed to England they are delivered directly to the addresses, as they should be, and without extra charge.

When the American traveller boasts of progress in transportation; our low freight charges, our long distance telephones and rural mail delivery, then the Briton has but to mention "parcels post," and the visitor is silenced. Only the undue power and influence of the express companies can reasonably account for the long delay of an improvement for which the public has been loudly calling year after year. In view of the enormous wealth which the companies have heaped up and divided, it seems high time that the people were given a chance for quick transfer of parcels without paying arbitrary or excessive charges.

While addressing several hundred farmers at the Lowell field meeting last week, ex-Governor N. J. Bachelder, of New Hampshire, said: "While all the classes of people sending packages from one locality to another would be benefited by the establishment of a parcel post in the postoffice department of the government, the dwellers in rural sections would be especially benefited thereby. The parcel post is a logical sequence to rural mail delivery, for by this means the parcels mailed would be taken direct to the houses of the people upon rural delivery routes, which facilities do not exist in express company service. Rural mail carriers could collect and deliver several times the present amount of mail matter without material cost, and through the receipts of a parcel-post system the annual deficiency arising from the rural delivery system might be reduced. The postoffice department that has hitherto turned a cold shoulder toward the parcel post innovation, now recommends a local parcel post over separate rural routes. This is not what the people ought to have, but might act as an opening wedge to something better. The difference to millions of people between sending a package by express for twenty-five cents and by parcels post for six or eight cents, and in the latter case to the door of rural consignees, is an argument that should be given attention by those in authority in the matter."

There is a big difference, too, between paying a fixed and definite charge, regardless of distance or locality, as would be the case with a general parcels post, and paying each of from one to three express companies all sorts of tribute for their share of the work. It is the uncertain and variable nature of express charges quite as much as the actual amount that now exasperates the public.—American Cultivator.

CULTURE OF THE SUGAR BEET.

Many growers of sugar beets have found the crop most exhaustive of the soil and best to rotate it with some other crops. There have also been serious obstacles in the way of manufacture. However, the Sacramento Union sees much in the future of the industry. It says:

The sugar trade is undergoing a transformation that ought to open the eyes of California farmers to a golden opportunity. The suitability of the soil to beet growing is not a matter for doubt. It has been proved conclusively again and again, and the State ought to become one of the great sugar-producing centers of the world.

It seems that a new method has been devised by which the refinery will be thrown entirely out of business. That is to say, the sugar factory will be placed in such a position that it will need no extraneous aid whatever. The raw beets will, as it were, be received at one end of the factory and the finished granulated sugar will be delivered at the other. What is known as "raw sugar" will be handled and refined in the factory itself and the separate sugar refinery will become a thing of the past.

That there is room for an extended beet culture is as certain as California's ability to undertake it. The United States imports nearly three-fourths of all the sugar consumed in the country, and it may be remarked that the consumption doubles itself every eleven years. Every year America pays a sugar bill to foreign countries of $125,000,000 and a very large part of this could be added to the revenue of California. Sugar could certainly be manufactured here at prices that would drive the foreign product out of the home market.

The European sugar industry is now so immense that the mind almost fails to grasp the figures that express it. The capital invested is $650,000,000, and 54,000,000 tons of beets are grown on 4,500,000 acres of land. No less than 1600 factories are needed to handle this trade, of which a substantial part is created by an American demand that ought to be met in America and not elsewhere.

So far as the farmer is concerned the industry seems to be very simple and very remunerative, and the profits will grow still larger with the improved methods. The crop is so reliable where land and water are good that it is usually sold in advance before the seed is planted. So far the beet has developed no animosities in the insect world, and it is patient of drought. Nature seems to have intended the beet for California and California for the beet, and its culture ought certainly to have a future here.

When the Sacramento Valley is self-supporting in the matter of dairy products and helping to supply the whole country with sugar, her prosperity will be even more assured than it is now.

The best engineering—building a bridge of faith over the river of death.

THE INSECT INVASION.

There are now in bearing in this country 165,000,000 apple trees, and not less than $8,250,000 per annum is spent in spraying and otherwise treating them for protection against the codling moth. When this as added to the shrinkage, and full allowance is made for the use of damaged fruit for cider, the bug question must be charged with at least $20,000,000. Other orchard fruits suffer losses equally heavy, and for all of them, including small fruits also, the yearly damage is fully 20 per cent of the entire crop.

Enormous as is the annual loss which may now be fairly charged to predatory bugs, it would certainly be vastly greater if such enemies were left unchecked and no efforts were made to restrict their operations. By the adoption of such means as science has been able to devise for the control of these innumerable foes an immense amount of saving has been accomplished. The damage done by the cotton worm has been cut down from $30,000,000 to $10,000,000; the fight against the Hessian fly saves from $100,000,000 to $200,000,000 annually; defensive measures against the codling moth reduce the loss by $15,000,000 to $20,000,000, and the existence of the orange industry of California has been made possible only by the introduction from Australia of a natural enemy of the white scale—a pestiferous creature which, a few years ago, was rapidly destroying the orange and lemon orchards.—Saturday Evening Post.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
S. M. WOODBRIDGE, Ph. D.
423 Byrne Bldg.
Los Angeles, Cal.
South Pasadena San Bernardino

When writing advertisers mention Cultivator.

Have You Seen the Moline Cars?

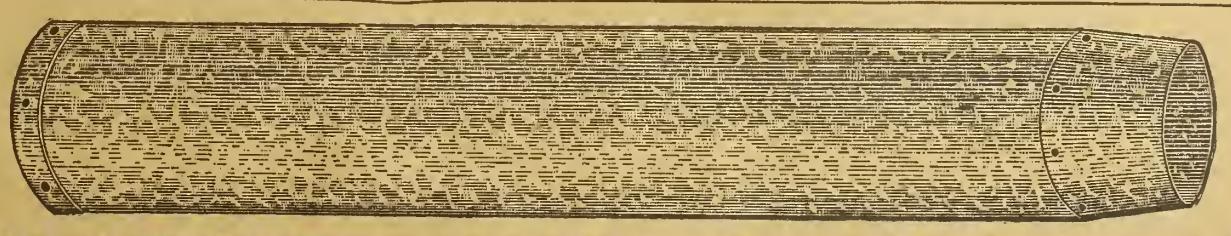
The most beautiful family cars on the market.

A carload of Runabouts expected to arrive this week and will be sold at $950.

Call and see them.

Wm. Gregory
602 N. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** *WRITE FOR CATALOGUE*

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 8, 1905

CONTENTS.

	Page.
Valuable Eucalypts for Farmers.	219
California Horticulturally	220
Races of Honey Bees	221
Beware of Iron Sulphate	221
Duty of Water	222
Central Canal	222
Heat and the Black Scale	223
The Brown Rot	225
Fungus for Black Scale	223
Floriculture	224
Scutellista's Latest Victory	224
General Agriculture	225
Editorial	226
Coast News Notes	227
Examination of Dairy Cows	228
Maltese Goats	229
Aborting Cow	230
Profitable Dairying	230
Dry Feeding	231
Poultry Question Box	232
Our Mountain Forests	234
Queries and Suggestions	235
Household and Recipes	236-237
Veterinary	238
Markets	238-239

College Farm Project.—Renewed discussion appears in the leading papers of this State on the question of the location of the college farm. It will be remembered that the legislature last winter provided for the location and equipment of a college farm. A commission was appointed to investigate the various localities offering sites and to select one which combines the essential elements for a successful agricultural station and farm. So far nothing has come of the scheme, the commissioners have not agreed on any location and the proposition is no nearer solution than it was early in the season.

The Cultivator has discussed this subject quite fully and has taken the position that but one thought should control the commission in selecting a location for the college, viz: to fix it where it can be of the most service to the State; where the best results can be reached for the agricultural classes, with no reference to individual interests nor political affiliations. It would be a most serious mistake to select a location where conditions will not warrant the fullest success to the enterprise, for the college once located can not easily be removed. The members of the commission ought to be well enough advised on the different conditions presented to make no mistake in a final agreement. Soil, climate, water, proximity to market, are all matters commanding careful consideration. It is possible to err in a conclusion on any one of these essentials, but it ought not to be done, for the members of the commission are sufficiently acquainted in the State to avoid making a mistake of any serious character. It seems, however, that Berkeley is moving strenuously to get the college at that place and objections are being urged against the selection on the ground that climatic conditions are not favorable for the best results to the school.

Berkeley is the seat of the State University. It is a great school, the people of California want it to become greater than it is, but whether it is best for the interests of the agricultural college to place it under the influence of the University is a question.

* * *

One of the ablest papers in this State, the Sacramento Union, discusses this proposition, it seems to the Cultivator, very fairly and advances some arguments which should command the consideration of the authorities who have the final say as to where the college shall go. In its issue of August 23d, it says:

"The Viticulturists' Association of St. Helena have spoken out in no uncertain manner. This is a matter that concerns them closely, as indeed it concerns every practical agriculturist in the State. In its broader sense the scheme is for the benefit of the State as a whole. In a narrower and more technical sense it is for the benefit of the farmers. It is a farmers' measure, and therefore the opinion of farmers is of the first importance—of far greater importance indeed than the views of university professors, or even of Eastern experts, who seem to have traveled far for the express purpose of airing those views. The Viticulturists' Association has passed a series of resolutions by a unanimous vote. We believe that the agricultural voice of the whole State will be equally unanimous, and for this reason we append these resolutions, as follows:"

"Whereas, the commission selected to locate the university farm is now ready to select a site; and

Whereas, the bill passed by the Legislature provided that the farm must be for the benefit of the State at large and must be under an established system of irrigation and must represent by soil and climate the great valleys comprising the greater portion of the tillable soil of the State;

Resolved, by the California Viticultural Club of California, composed of viticulturists and vineyardists from all sections of the State, that we respectfully request the commission to conform strictly to the requirements of the bill passed by the Legislature.

Resolved, that we deem the measure to be strictly a farmers' measure and in no wise a university affair, and that the site should be located where it can do the greatest amount of good to the greatest number. We deem it unnecessary that it should be located near the State University, but by all means be located in some locality where the soil and climate are typical of the great valleys of California. Be it further

Resolved, that the Secretary be instructed to immediately forward a copy of these resolutions to each member of the commission."

It would not be easy to find a more terse or a more weighty statement against the selection of Berkeley as a site for the farm. Continuing the discussion, the Union urges, with much terseness the argument which the Cultivator considers both weighty and just, that "the success of the University does not depend upon specialized and ill-justified grants, but rather upon the general prosperity of the State." All of which is true. It should be remembered that the college farm act was in the interest of the farmers in the broadest sense. It was in no way a grant nor a special act to assist any institution nor particular location; it was intended to advance the agricultural needs of California, and any diversion of the purposes of the act will meet with the severest condemnation of the taxpayers of the State.

* * *

The State Fair.—Word comes to the Cultivator that the State Fair, which closes this week at Sacramento, is one of the best held in recent years. Particularly is this true of certain lines of stock interests. Beef cattle have made a splendid showing and this is gratifying, because the interest manifested shows the trend of thought along this line. We have hoped that there would be enlivened interest in beef stock for there is certainly an optunity for its development in the State, especially in the northern part where feed is comparatively cheap. The present exhibition demonstrates that there is an awakened interest in beef breeding cattle; farmers are pushing into Humboldt, Mendocino and other counties bringing with them high grade and pure blood cattle, from which they purpose raising beef of a better quality than the average today existing in California.

Prof. John Craig, of the Texas University, has been appointed to judge beef cattle and other stock, and as he is an authority, we may expect good returns from his judgment.

The dairy interest is alive too, as is evidenced by the fact that some splendid cattle are on exhibition. The dairymen in California are more progressive than the beef men. They have made money right along and they are better organized. For instance, Humboldt county is one of the best dairy organized counties on the Pacific coast. Last year it produced butter that sold for $1,162,793; condensed milk, $62,569; condensed cream, $40,495; total, $1,175,858.

This year Prof. Le Roy Anderson, of San Luis Obispo, is the judge of dairy cattle at the Fair, and we ought to get a good report from him.

We are glad to say more farmers have attended the fair this year than heretofore, manifesting a deeper interest in its welfare. The State Fair ought to be the grand agricultural exhibition for the State and it should be attended by the farmers from every section. It ought to be an educator, as well as a pleasure giver, to those who attend. The Cultivator hopes to see the day when it will rival in attendance the old time State fairs of the Middle West and Eastern States.

* * *

A Valuable Man.—Prof. G. H. Powell, who was sent from Washington, last winter, by Secretary Wilson, to investigate conditions surrounding citrus growing in Southern California, made himself exceedingly valuable to the agriculturalists who were fortunate enough to fall under his instructive talks. He is not like so many auxiliary officials of the various departments in Washington, who assume to know more than the united wisdom of the ages, he simply tells what he knows in a manner so clear and simple that an uneducated farmer finds no difficulty in grasping his suggestions. He is terse but concise, and he leaves the impression clearly that he is honest. The people believe he is competent and he talks not by books alone but by experience.

Well, we are glad to chronicle the fact of the almost certain probability of his coming among us to make his permanent residence. This will be good for citrus growers, as he will be where his advice can be had when questions of doubt, as to what to do, shall arise. Southern California is to be congratulated on the coming of Prof. Powell to abide therein. The citrus growers are likewise to be congratulated that one so capable will be close at hand where advice may often serve them in time of need.

* * *

A Squirrel Law.—While in Kings county recently, a prosperous farmer told us that the damage to his fields and grain from squirrels this year has been very great. Last year it was "frightful," he said, but this year not so extensive, because the heavy rains of last winter killed thousands of the pests. This farmer strenuously advocates a State law requiring boards of supervisors to put poison into the hands of farmers and compel them to clean out their fields. As the rule now obtains about one farmer in ten attempts to poison the squirrels on his land. He gets a few, the rest take fright and hie themselves away to the farms around to add their destructive powers to the army already at work. If a general law were in existence and supervisors were compelled to see to it that it was executed, the gophers and squirels would in a few years become practically extinct, at least, they would do vastly less damage than they are doing at the present time. We are of the opinion that a drastic law should be passed requiring farmers and owners of lots in towns, to make a vigorous campaign against both squirrels and gophers. The expense would be light, but in a short time the results would be ahppily recognized in the decrease of the pests throughout the State.

* * *

Tree Planting.—The season is near at hand when shade and ornamental trees will have to be planted. Make the selection with care, put the right tree in the right place to obviate the necessity of removal a year or so later, then be sure and follow the advice given by Prof. Jepson as to planting. Remember what he says, viz:

"The secret of vigorous growth of ornamental trees lies in proper preparation of the soil before planting. Make the holes at least three feet across and of a like depth—you cannot make them too large or too deep. Do not dump in a lot of manure or trash of any kind, but first put back the surface soil and if possible fill in the hole with nothing but surface soil from surrounding territory, leaving the other soil to be scattered where it may get aerated and enriched. If necessary to use manure let it be well rotted and most thoroughly mixed with the soil before putting it around the tree.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The prune crop about Watsonville has not been better for years, is of good size, and shows a splendid sugar content.

The Pajaronian says that hundreds of people will be required to handle the enormous apple crop in that vicinity this fall.

The crop of peaches in the Toluca valley is much heavier than was anticipated. The crop will amount to nearly two thousand tons this season.

A car of lemons recently shipped from San Fernando to the East by the Stewart Fruit Co. brought $2490. This is one of the best sales reported this season.

A correspondent writing from Los Gatos says that canneries are preparing to handle the late peaches, of which there is a fair crop and of good quality.

This season has proven one of the worst for years for the seed men in Santa Clara county, the blight having played havoc with almost every variety of seed.

The first pomegranates of the season arrived last week at San Francisco from Fresno. The fruit was of fair size, good color and the sales were made at $1 per box.

Fruit reports from Auburn, Placer county, state that Salway peaches are coming in fast, of which there is a good crop. Cling peaches are also quite heavy and grapes are commencing to move lively.

Six carloads of Tokay grapes were shipped from Florin last week, the two first cars of which sold in New York and Chicago markets at $2180 and $2280 each, which makes an average of $2.25 per crate.

Local florists of San Jose have sent a representative to the City of Mexico with the object of preparing a field for the introduction of California flowers to cater to the European and American trade in that city.

The Patronak winery in Sonoma county commenced crushing some of the earliest varieties of grapes this week. This winery expects to make a large run and handle close to one thousand tons of grapes this year.

The Glenn Transcript says the almond crop in the Orland section is turning out better than expected. P. D. Bane will have about sixteen tons and the Houston orchard will turn off about seven tons. The quality is proving to be excellent.

Some of the orchardists in the Pajaro valley will give their apple trees another spraying before picking time in order to keep the codling moth from getting a start at the last moment. In the valley proper the showing of worms is unusually small.

The almond crop raised on the Bidwell properties was sold to the Chico Fruit Co., on its bid of six and a half cents for hard shell and twelve and a half cents for nonpareil varieties. It is estimated that the sixty tons of various varieties will bring upward of $12,000.

The annual report of the Covina Highland Citrus Union just out shows that it paid the growers for last season's crop an average of $.91 per box, f. g. b. This is exclusive of Valencias, which will bring the average much higher, as some growers received as high as $3 a box.

Fruit shipments from Vacaville are nearly all made. Grape shipments will be much lighter than usual, owing to the heat of July. Up to September 1st there have been shipped seven hundred and fifty cars of all kinds of fruit as against four hundred and seventy-five, same date last year.

The annual report of the Claremont Citrus Union, just out, shows there were three hundred and forty-two cars of Washington navel oranges shipped the past season, for which the association received $140,047. The growers have received $102,965, the average amount per hundred pounds being $1.20.

The grape men in the north central part of the State are on the anxious seat at this time as to the price of wine grapes this season. Some growers are predicting $15 and $18 and even as high as $20 per ton. The wineries about Lodi recently announced their price for wine grapes at $12 but last week raised to $13 on account of counter bidding by Sacramento parties.

The crop of prunes locally is about one-half of a normal yield, runs largely 50-60's, and is worth 3¼ cents. Every packer in the country seems to have sold short and many buyers are here from San Jose, where the crop is not only light, but runs to the smaller sizes. Prunes are apparently sweet, but contain more than the usual amount of juice and lose by evaporation half a pound more than in ordinarily sunny years.—Sonoma County Farmer.

Our correspondent writing from Colusa, says: It may be surprising to many Cultivator readers to know that the best trade in this State, the Palace Hotel of San Francisco, is supplied with oranges from Colusa on the Sacramento river. I today visited the orchard of Col. Jno. D. Harrington, where is as pretty a navel orchard as one would wish to see. Mr. Harrington has had no crop failure and same has not been damaged by frost. His fruit demands the same price as the best Redlands brands and is ready for use the first week in December. he shipping regularly to the Palace and Occidental, and is negotiating this season with the St. Francis hotel. Efforts to start a beet sugar factory here were nearly successful this past season and many are hopeful that they will succeed on another attempt.

AGRICULTURE.

The average crop of wheat in the Fernando valley will be about eight sacks per acre. Barley will average about fifteen sacks per acre this season.

The Sonoma County Farmer says that the crop of hops in that county is estimated at 220,000 bales, the 1600 acres in new hops giving about 2200 bales.

Farmers in the northern portion of Yolo county are circulating a petition which will be presented to the Board oif Supervisors, asking that they pass an ordinance making it compulsory on the part of farmers to put out poison for squirrels.

Boydston Bros. are preparing the ground on one hundred acres of land south of Porterville, to be planted to green peas, cucumbers, tomatoes, egg plant and other vegetables. The land is supposed to be frostless, therefore allowing the growing of very early vegetables.

Frank Blakley is preparing to sow twenty-five hundred acres of wheat in the Lake country in Kings county this fall. To seed this vast tract will take over eight thousand sacks of wheat and Mr. Blakley will have ten six-horse teams at work putting in on an average of two hundred acres per day.

The funds for the Talbert drainage district in Orange county have been secured and bids asked for. The system will comprise twenty-eight miles of ditches, large enough to meet any emergency and when completed there will be no further damage from winter overflows. The system will drain about eight thousand acres and will add considerably to the acreage available for growing celery and sugar beets.

Prof. G. W. Shaw, of the Agricultural Department of the University of California, has been placed in charge of the beet experiment station near Yuba City, in place of Prof. A. B. Stubenrauch. The farm has been moved from the Walton tract to the Gray ranch, just west of Yuba City. Good progress is reported to have been made in the experiments and some two hundred and fifty varieties of wheat from every wheat growing country in the world are on hand.

Grain is almost an entire failure in Glenn county this year and the people are realizing that the only salvation is irrigation. The Central Canal Co., of Willows, is now rapidly progressing on an enormous canal which taps the Sacramento river in Tehama county, and will irrigate 100,000 acres in Glenn and Colusa counties. Plenty of land has been subscribed to guarantee completion and water the year round is sure to mark the awakening of a new era of prosperity for this part of the Sacramento valley. Grain has been the only crop, but after so many years the grain producing vitality has been gradually exhausted until now the old time heavy yields are unknown. By subdivision and irrigation of smaller tracts the crops can be changed, for the fertility and deep soil of this valley is well known, and the homeseeker and investor is all that is wanted.

LIVE STOCK.

At the recent Biltmore Jersey sale 57 head of cows and bulls brought $11,850, an average of $207.89 per head.

Mrs. A. E. Butler, of Forestville, Sonoma county, has a hen twenty years old, which still lays her quota of eggs annually.

G. W. Hunter, of Blocksburg, Humboldt county, has recently bought 2000 sheep from the Saunders band, paying $3.25 per head.

Twenty-two thoroughbred yearling horses from the Spreckels Napa stock farm sold at Sheepshead Bay, New York, last week, for $21,800, or an average of $968.

By connecting the electric plants of Ferndale nad Loleta all of the creameries of the Eel River valley are to be run by electricty.

The Secretary of Agriculture has issued an order revoking in part the quarantine on cattle affected with the scabbies in the States of Eastern Oregon and Washington.

MISCELLANEOUS.

Many forest fires have burned a great deal of timber besides effecting other heavy damages in the Willamette valley, Oregon.

Will Densmore has the best crop of honey in Hemet section this year. From sixty-three stands of bees he has obtained twelve tons of honey.

Wine shipments from the Trenton winery, Sonoma county, are being made at the rate of four cars a day to empty the cellars in time for the new vintage.

Puget Sound mills have been asked to figure on an order for 25,000,000 feet of lumber for delivery in China. This is one of the largest orders ever brought to this coast, and is valued at $2,500,000.

The Maywood Packing Co., shipped its fourth car of dried peaches from Corning last week. The selling price of this last car was eight cents per pound, amounting to $4800 for this car of dried fruit.

A big celebration will be held at Escondido tomorrow, the 9th, at which time the irrigation district bonds will be burned. This district undoubtedly has a great future before it, now that the people have gotten control of their own water.

T. S. Bullock, president of the Sierra railroad, has bought 800,000,000 feet of sugar and white pine timber, situated between the Toulumne and Merced rivers. Some of this timber, comprising three thousand acres, is within the park surrounding the Yosemite valley.

A district fair was held at Ferndale, Humboldt county, this week. The exposition lasted four days and consisted of a good agricultural display and racing. The Eureka fair will be held next week, at which time most of the products shown at Ferndale this week will be shown at Eureka.

The State Board of Trade will give a banquet at the Palace Hotel in San Francisco on the evening of September 14th to Luther Burbank, to fittingly acknowledge the gift of the Carnegie institution of $100,000 in aid of Mr. Burbank's work, and to emphasize the esteem in which the great horticulturist is held.

The special agent of the U. S. Interior Department is at work appraising the lands of the Round Valley Indian reservation, comprising 66,111 acres. The appraising will take several weeks and inside of sixty days the land will be open for filing under the U. S. Homestead laws. The portion which lies in Trinity county can be filed on after October 3d.

The new winery of the Natoma Vineyard Co., near Folsom, just completed, was put in operation last week to crush the grapes in the big vineyard of two thousand acres. The winery was built to replace the one destroyed by fire last September and is one of the largest and finest in the State, costing about $75,000. The Natoma vineyard is one of the two largest in the world.

C. H. SESSIONS, ASSOCIATE EDITOR

EXAMINATION OF DAIRY COWS.

Without going into detail about advantages and disadvantages of different breeds and breeding, some points on how to examine a cow from a profit basis (what she can produce) may be of value to the beginner in the cow business.

First, Will she breed? Does she abort? If so, ascertain when, and the cause of it, if possible. If it is often, you don't want her in your herd, or alone. There are plenty of cows that do not abort, so why fool with her at the price of a healthy one?

Second, Does she give an amount and quality of milk in ratio with her cost? See that the milk is weighed, not measured, and proper test made for fat. Also note the kind of feed the cow is on when examination of milk is made. See that teats and udder are well formed and that she is an easy milker. See that the udder is free from enlargements (lumps) between the lobes, especially the hind quarters. Here are located the lymphatic glands—very easy to detect any enlargement. Also feel for hard lumps in substance of udder. If several are found that have been there for some time, you don't want the cow, as it is very hard to remove this trouble, and in some cases impossible.

Third, after making a thorough examination of the udder and finding nothing wrong, inquire into the history of the cow in regard to age and general health. Often it is hard to find out how old a cow is, especially if over eight. A very good guess can be made by general appearance and the horns and teeth. In young cows up to seven or eight it is not so hard, as they do not get through shedding front teeth until past four years. So you should tell their age as well as in young horses by the number of teeth shed at different years.

The front central incisors come through before or soon after birth. They change at about eighteen months. The next ones at about thirty months and then at 42 months. The last at about four years and three months. With a little practice it is very easy to tell the age of young animals.

Some old cows are very good milkers. As a rule when they are good they were better when younger, but the price can be regulated according to age.

If you are looking for a family cow it is well to learn something in regard to disposition, especially if she is one of the home type. A cow with one eye may be a good animal as far as milk is concerned, but this will depreciate her value, as something may happen to the only eye she has.

So it is well to look to all points. She should be of good size for the breed, well sprung in ribs, large of body and appetite in proportion. Don't look for a smooth, fat cow for a milker; as a rule they are not so good. Drive her across the lot to see is she shows any lameness. Note if she coughs on going in a trot. This is a very good way to detect any disease of the respiratory organs.

I think by going over the cow in a systematic way you will get a better idea of her real value. After a little practice you can make a good examination in thirty minutes, and learn more than if you sat on the fence and talked for three hours about the crops.—Loofbourrow, in Jersey Bulletin.

KEEP CLEAN.

Maybe hog cholera or some other disease has not found you so far this season. The season is not over yet, however, and you may be unfortunate unless you take a bit of precaution and keep your dumping ground clean.

It is surprising how long some people will feed on the spot in dirt and dust without once thinking of what advantage a change would be. Only the other day did a case come under my observation in which a farmer had fed in the same place until the ground was positively filthy. The pigs were not thrifty, and many of them had a cough. It would not be at all surprising if in a short time disease should break out just because of the filth which existed. That is not all—the profits from the entire herd are being lost.

The time to be busy is before such conditions prevail and before disease has made its appearance. In the case mentioned, there is no reason whatever why the feeding troughs could not be fastened on a floor and the entire make up made transferable by team from one spot to another in the pasture, as occasion demands it. This would be far more healthful and decidedly more profitable, and I dare say even more pleasant than the existing conditions.

CONDITION OF BREEDING SOWS.

If the young gilts designed for brood sows are taken away early from those to be fattened and kept growing on grasses and milk, with just enough food in the winter to keep them thrifty, less trouble would be experienced about failure to breed. After they are a year old sows require very little other feed when on good pasture. A few quarts of milk daily has in many instances kept sows nicely when at pasture; or ½ pound of shorts in water, fed daily to 100 lbs. of live hog will do the same.

The chief cause, in most cases, is letting our sympathies get away with our judgment, and we feed the sow all she will eat and just as long as she will eat; so she gets fat, then lazy, exercises but little, and trouble begins. The quicker we stop feeding the brood sow all she will take, and learn to make her grow upon grass with a little grain, and cause her to exercise much, the quicker will failure to breed be known but rarely if at all.

The pig multiplies so fast that under favorable circumstances a shortage cannot be depended upon for a very long time to keep up the price.

Has it ever occurred to you that mule teams are rarely seen on the streets of large cities. The reason is that the hoofs of mules are not able to withstand the grinding of the pavement any length of time.

The health of the hog depends very largely on what is taken into the system through the nose and mouth.

Nothing tends to the thrift of a pig so much as to have him relish his feed at all times.

What You Gain In a few words, you gain this by using a Tubular: (1). One-quarter to one-half more cream, because Tubulars skim by centrifugal force, which is thousands of times stronger than the force of gravity that makes cream rise in pans. (2). One-half to twice as much for butter, because Tubulars remove dirt and bacteria, thus making gilt-edge butter possible. (3). Half the work saved, because you finish skimming five minutes after milking, feed warm skimmed milk at barn, and have only the can of cream to care for. Write today for catalog W-260. It tells all plainly.

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

Sharples TUBULAR CREAM SEPARATORS

SUGAR-BEET-PULP

A Cooked "Cow-Breakfast-Food"

TO FARMERS, STOCKMEN, DAIRYMEN:

SUGAR-BEET-PULP, 60c per ton f. o. b. cars or wagon, fresh from factory. Professor Carlyle has demonstrated that 3¾ pounds of sugar-beet-pulp equal 1 pound of alfalfa hay in feeding value; and that 3 pounds of hay equal 1 pound of corn in feeding value. Hundreds of satisfied users have proved it to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

Los Alamitos Sugar Company **Los Alamitos, Cal.**

When writing advertisers mention Cultivator.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

FLYO-CURO

Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL
The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

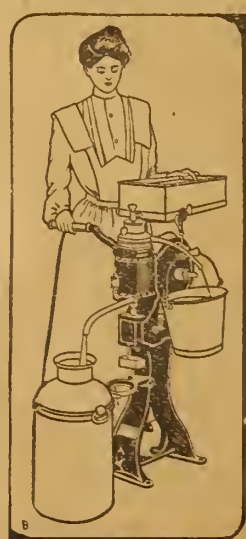
CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON 884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.



An Increase in Profits

Here is the way it figured out for this man:

$52.52 received the month he used the U. S.
25.00 received the month he **didn't.**
27.52 **gained in one month.** At this rate
330.24 is the total for the first year, and
100.00 deducted for his machine, leaves him
$230.24 **net gain,** with his machine **paid for.**

Read the signed statement below:

Delhie, Minn., June 6. 1905.

"I purchased a No. 6 U. S. Separator Feb. 1, 1905, and sold cream the first month to the amount of $52.52, the product of 8 cows. The month previous to getting the Separator the 8 cows produced me about $25. This herd of cows is about the average herd, three of them being heifers. I can heartily recommend the U. S. to all who want a first-class Separator.

"H. A. DRYER."

Pretty profitable investment, wasn't it? Isn't it worth investigating? That costs you nothing. Send for illustrated Catalog No. 550-B, which will tell you *all* about it and *show* you how and why the Improved

U. S. Cream Separators
MAKE THE LARGEST PROFITS

VERMONT FARM MACHINE CO., Bellows Falls, Vt.
413 18 Distributing Warehouses throughout the United States and Canada

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

UNDULATING LANDS FOR HORSES

English experts are advocates of the theory that undulating lands are decidedly best as grazing grounds for young horses. Apart from the question of the soil, which is in itself, of course, an important matter in the production of nutritious grasses, it is argued that undulating fields are necessary for full and proper muscle development. The perfect horse, or one pleasing in form, needs symmetrical development of all muscles, and the English experts are advocates of the theory that this development is not attained on level pastures; hence their favor for undulating pastures for the best development of all classes of horses.

The simple possession of a good brood sow does not always insure a corresponding certainty of success.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.
When writing advertisers mention Cultivator.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."
When writing advertisers mention Cultivator.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.
When writing advertisers mention Cultivator.

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.
When writing advertisers mention Cultivator.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
Jerseys with a record as milk and butter producers
Riverside, California
When writing advertisers mention Cultivator.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams. for sale.
L. Bradbury Duarte, Cal.
When writing advertisers mention Cultivator.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.
When writing advertisers mention Cultivator.

FIGHTING FLIES.

A writer in an exchange says: When I get the cow into the little stable to milk her a cloud of flies come with her, and when I close the door each fly seems to dig his beak into her hide, judging by the way she begins to kick and slash. But the bite is short, for I grab my little sprayer filled with kerosene oil, and with a few pumps of the handle she is relieved of her tormentors. The sprayer blows the kerosene out in a smoke-like mist, which fills the air in the little stable like a fog, and such flies as do not tumble to the floor make all possible haste to get out through the chinks in the building, then I sit down and milk in peace and comfort. The sprayer cost me thirty cents four years ago, and the kerosene I use costs me ten cents a gallon, one gallon lasting about two months. So it will be seen that freedom from annoyance by flies while milking does not come very high. I know of nothing that will clear the flies out of a small stable quicker than a little cheap kerosene delivered through this little tin sprayer. One hot day I saw the cow dashing about among the trees like she had gone wild, and on going out there saw that flies were swarming over her like bees. I opened the gate, and she went to the little stable as fast as she could gallop. I closed the door and turned the sprayer loose, and in less than half a minute there was not a fly left in the building except those squirming on the floor. About ten minutes later I looked in, and there was still a thick fog of kerosene floating in the air, and the cow was lying down chewing her cud.

ACTIVITY NOT ABILITY TO RESIST DISEASE.

The bacon breed of hogs, and especially the Tamworths, have been credited with powers to withstand such infectious diseases as cholera to a much greater extent than the breeds of the lard type or so-called corn-fed hogs. This is largely imaginary, as is also the claim that they possess more stamina That they possess more activity is readily granted, but that they resist such diseases as cholera appreciably better than Berkshires or Poland-Chinas is not supported by satisfactory evidence.

At one time much was heard of the ability of the razorback of the South to resist cholera, but when he was brought in contact with real cholera the myth disappeared, as did the razorback. In short, science and sense, as well as experience and observation, indicate that no breed nor any kind or condition of hog can claim any superior powers in resisting cholera. They nearly all go when a virulent type of the disease is introduced, and all talk to the contrary is the rankest absurdity.—Tait Butler, in N. C. Bulletin.

IS THE JERSEY DELICATE?

In one sense she is. She can not stand neglect and abuse as well as a scrub can. With neglect and abuse you lose money with any kind of cows. What do you keep cows for? To make money. How can you make money if you don't feed and care for them in a humane and intelligent manner? You do that and you will find the Jerseys is not delicate. On the contrary she responds to your treatment with greater profit than any other breed.—Jersey Bulletin.

MALTESE GOATS.

For years the Maltese goat has been regarded in all parts of the world by those interested in raising goats as a very superior animal, not only on account of its milk, but as a breeder. There must be something in the climate of these islands that makes this possible, for pasturage is very scant, and the herds, which are driven out twice a day, seem in some way to find nutriment in places where an ordinary cow would grow poor and pine away. If there is one thing receiving good care at the hands of the Maltese it is the goat, and there are stringent laws in force requiring cleanliness and attention to its welfare. The population of these islands is about 203,000, and almost wholly dependent upon goats' milk. A few cows are kept here, but their milk is not regarded with favor, owing to lack of pasturage. In addition to the limited herbage, the sustenance of the goats is added to by feeding them with carob beans and mixed cotton seed and bran, the extra feed costing about 7 cents per day per goat. It would cost much more to feed cows to produce even fairly good milk, which would render the milk too expensive for general use. For this reason such cows' milk as we have is of very inferior quality and very limited in supply.

It has been estimated that there are about 12,000 goats on the islands. It would be difficult to give their exact number on account of their frequent shipment to Tunis, Italy and other Mediterranean countries. It is an old adage here that no matter how much better a Maltese goat may be fed and pastured elsewhere, it does not thrive as well as at Malta.

There are two varieties of the goat, the short and long haired. In color they are brown or white, about equally divided. As a rule they are dehorned early. The milk produced is of very superior quality, perhaps not as rich as that of an ordinary cow, but, nevertheless, very acceptable for table and cooking purposes. The average height of the goat is two feet six inches, and its weight often reaches nearly 100 pounds. No special attempt seems to be made by the herder in the matter of preserving or refining strains, but, nevertheless, the Maltese goat seems to keep up its reputation for appearance and milk production. As a rule the Maltese goat does not breed before it is fifteen months old; and generally breeds once each year. It is not milked within three months of breeding time and will produce milk until it is eleven or twelve years old.

Very few things are essential to care for the goats. They are kept in herds of from six to thirty animals, and one attendant often has the full charge of and milks the latter number. It is an ordinary sight here to see the herds driven through the principal streets and milked at the doors of residences where milk may be required. This occurs not only once, but two or three times each day, and for this reason householders do not purchase their day's supply at one time, but in small quantities, as it is required. Goats' milk is sold from eight to ten cents a quart. The small quantity of cows' milk sold is bought by a few English residents, and costs about eight cents a quart. Goats' milk is not used here for cheese or butter making. There is a variety of fresh butter and a peculiar kind of cheese produced in the islands, but it is made of sheep's milk. Sheep, however, are very limited in number and need hardly be taken into consideration. The meat of kids, after inspection by the health author-

FARMING LANDS TO LET
For Lease. Two Ranches on Shares. (1) To successful and responsible dairyman, 320 acres, over 100 acres fine alfalfa, 75 high grade cows, registered bulls, 50 brood sows, 3-room house with ample porches; good milk house with steam separator; gross receipts of this ranch last year over $3000. (2) 240 acres near creamery and town, 30 cows, 30 brood sows, small ranch house, 15 acres of alfalfa. Both in Imperial valley. Apply to J. M. H., 175 WEST ADAMS ST., LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

The Rancho Verde Co.
OF
Victorville, California
Will buy thirty (30) head of Milk Cows if price and quality are satisfactory. They must be either Pure Bred Jerseys or Guernseys or high grades of either breeds, not under 3 years or over 6 years of age. None to give less than three gallons per day.
When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD
DAIRY SHORTHORN BULLS FOR SALE
Admiral Dewey 183493 and King Edward 184393 at head of herd. Address
Fred Fuller & Bro. Imperial, Calif.

Berkshire Hogs ♦ Dairy Shorthorn Cattle
I am booking orders for pigs for September delivery. G. A. MURPHY, PERKINS, CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Holsteins For Sale
From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.
MINNEWAWA STOCK FARM, FRESNO, CAL.
When writing advertisers mention Cultivator.

PAXTON'S VETERINARY REMEDIES
f r Horses and Cattle. Wr te for circular.
Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles
Lab'tory at La Porte, Ind
When writing advertisers mention Cultivator.

Registered Shorthorns
—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal
When writing advertisers mention Cultivator.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory
322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.
When writing advertisers mention Cultivator.

ities, brings about 10 cents per pound. The law requires that they be at least one month old before slaughter, at which time they are to weigh not less than twelve pounds. Goat skins are sold with the hair on, and skins bring from 18 cents upward. The average yield of the Maltese goat is from two to two and a half quarts of milk daily. Its keeping quality is about the same as that of cows' milk, and it is not uncommon for it to keep for twenty-four hours.

The average price for a fair Maltese goat is $15. Some of extra merit bring much more. Most of the persons writing to me desire to know the cost of shipping from here to the United States. This is rather a difficult question to answer, inasmuch as arrangements would have to be made at the American port rather than here. Another thing that should be considered is that it would prove a very expensive, and perhaps useless, matter to ship them singly or in very small numbers. Facilities are very limited on steamers leaving Malta for the United States, I believe, however, that if, say, 100 goats were sent from here to Palermo to be there trans-shipped to the United States, the cost might be estimated at about $1750. This would include the cost of the goats and the freight. Food sufficient to last the herd from Malta to the United States could easily be shipped at this port upon departure. I believe that in estimating the cost of food seven cents per day per goat might safely be reckoned.—United States Consul John H. Grout, Valetta, Malta.

ABORTING COW.

Editor Cultivator: I have a cow which dropped her calf when only seven months along. The cow now has no milk to speak of. The calf is fairly good size but is sustained by other milk. How can we bring her to her milk? We are feeding her twice a day on bran, oat hay and alfalfa. Three weeks ago she quit giving milk very suddenly, and in a few days hardly ate any thing and took very short steps, as if she had been foundered. My milkman thinks it was probably from eating sorghum. The cane was really all ripe and of the first cutting. My neighbors say it is the finest feed they ever raised, and my cows prefer it to any other feed. Is the second and third cutting as good feed for dairy cows as the first cutting? Or is it in reality a good feed for dairy cows?—Subscriber, Highland.

The above was sent to Mr. Burgess, of Arlington, and he answers as follows:

Editor Cultivator: In reply to Subscriber's questions will say: A cow that freshens prematurely (7 months) will come to their milk if milked regularly, but not a full normal flow and will not be satisfactory until after freshening again. Subscriber has, according to his letter, fed her all right, and I think fed her too well (over fed). A cow must properly digest her food to carry out her functions. I infer that not assimilating all the food given her, was the cause of her being stiff and out of sorts. Would give her 1½ lbs. Epsom salts and 2 oz. ground ginger in 2 qts. of water at one dose. Clean out her digestive tract. It is a safe thing to do and might be the means of saving more trouble in the near future.

Sorghum cane is first class feed for milk in connection with prime alfalfa hay. Oat hay is of little value for dairy cows. A little fed once in a while as a change is sometimes desirable. Second and third cut of sorghum is as good as first—if not frosted.—C. S. Burgess.

TO THROW A HORSE.

To thoroughly take the conceit out of a horse there is no better way than to throw him. It certainly requires pluck and determination to throw a horse single-handed, but if done, your horse is virtually conquered for good and all. To do this, says the Horseman, put a good, strong halter on your horse, take a strap with a ring in it and buckle it round the horse's off fore leg below the fetlock joint; take a rope eight feet long and tie it to this strap; place a surcingle around the horse's body; take up your position on the right side of the horse, bring the rope over the horse's back from the off side; take hold of the rope and pull his foot to his body; take a firm hold of this foot, holding it in that position, then take hold of the horse's halter with the left hand, ppull his head to you and press against his body with your elbow, using the words, "Lie down."

The majority of horses can be thrown in this way in under a minute, while others, of course, may fight longer. As soon as the animal has been thrown take the rope that is underneath him, bring it under the surcingle and pass it through the ring of the halter and back under the surcingle again, and thus you have the rope in position to bring his head over his shoulder. Make him put his head on the ground, and if he makes any attempt to get up, pull his head up immediately, which will prevent him from rising. This will give him to understand that you are master. Once a horse realizes your power over him he will do almost anything a horse can do.—Wisconsin Agriculturist.

PROFITABLE DAIRYING.

While down at Compton this week a Cultivator representative visited the dairy ranch of the Sterling Milk Company, a new organization, now owning and operating three ranches, all managed by the well known dairyman, E. E. Moore.

At the home ranch, which is located about two miles north of Compton, we found almost ideal conditions for successful production of milk at a profit. The ranch is located on the new electric road which is being built to Santa Ana, and here is to be located a depot to be known as Lugo (the name of the Moore place). The land lies well, is very fertile, has good buildings, and, above all, has an abundance of good water. One artesian well 467 feet deep has an average flow of 50 inches, while another well is pumped by a gasoline engine. Three silos are used to provide green feed for the stock. One of the silos had just been erected and will soon be filled—it is a round stave affair 13 feet in diameter and 30 feet high. A second silo, about the same size, was filled last week and Mr. Moore was proud of the record made of 15 tons per hour of chopped corn, with his Climax cutter. The third silo is a square one built in the big barn. Mr. Moore says his silage costs him $3 per ton put up. Besides silage for feed, beets and alfalfa are raised and given to the stock.

At this ranch there are two herds of dairy cows, one of about thirty head of registered Jerseys, the other herd of about the same number, are grades, but are great milkers. We were told that this grade herd were each producing about $10 worth of milk per month. On this place there is a skimming station where the milk is cooled and aerated and run through a separator, the cream being sent to the Los Angeles market. Over all, the two things that impressed us most was the air of thrift apparent and the means taken to insure perfect cleanliness in the milk.

This company also owns a ranch at Hynes, where 50 head of registered Jerseys are kept, the conditions being much the same as at the home ranch, and the milk sent to Los Angeles to market.

The third ranch of the company is located within six miles of Corona, near the Fuller ranch. On this ranch, which comprises 350 acres, there have been installed two pumping plants which are producing about 100 inches of water each. A skimming station is being built to handle the milk of 100 head of dairy cows and an adobe barn 60x80 is building. Besides the dairy cows 100 head of Herefords are kept to breed beef cattle. One hundred acres of the ranch have been seeded to alfalfa to furnish feed. Here, as at the two other places, all the dairy product is shipped to Los Angeles to be marketed by the Glen Holly Dairy Company. And, by the way, it will be news to many of our readers to learn that Mr. Moore is no longer manager of this latter company, he having resigned to personally supervise the work of the Sterling Milk Company.

The Glen Holly Company is now in charge of Mr. Fred Smith, recently of Colorado, who has become a heavy stockholder in the corporation. While at the home ranch, Mr. Moore pointed out to us three fine young Jersey bull calves which he had recently sold, two going to Dr. Houston at Imperial, and one to Santa Barbara county. The three sales were made through the company's advertisement in the Cultivator.

In a paper read by A. A. Arnold before a farmers' institute in Wisconsin he made the statement that he had proved by experience that he can make a steer weigh 950 pounds at sixteen months of age, with an average of four pounds of grain feed per day. This makes the cost of grain at one cent per pound, $18. Such a steer sells for about $40 as a "first-class feeder," leaving about $22 for roughage, milk, work, etc. If "finished," the same steer will weigh about 1200 pounds and will have consumed $36 worth of grain, but will sell for about $72, giving a much larger profit than on the "feeder." On this Coast, however, the steer described as a "first-class feeder" would be the best which the market demands, and the finishing of such a steer would not pay. It is probably as true on the farms of Oregon as those of Wisconsin that it pays a great deal better to keep a steer growing as fast as possible until he is about 18 months old than it does to keep him until he is 30 months old. Mr. Arnold further suggests that feeding a scrub is like throwing grain in a sack with a hole in the bottom.—Oregon Agriculturist.

To polish the horns of cattle, scrape with a piece of glass, then rub smooth with sandpaper, using medium rough and very fine paper, and finish by polishing with some good metal polish. The above method is better than using the so-called horn polishes. However, the results depend on the amount of "elbow grease" used. If protectors (flannel lined leather covers) are used on the horns, it requires less work to keep them in shape. Keeping the hoofs clean is about the only attention necessary.

Although farmers are not as particular about their seed grain as they should be for their own profit, they nevertheless show more wisdom in regard thereto than they do in selecting animals to breed from. They will patronize inferior stallions, buy the cheapest bulls, and in various other ways cheat themselves out of handsome profits. There are such things as trusts, and combines, and dishonest officials, but their effect upon the farmer's pocketbook is not comparable to the losses he brings upon himself.

Cows, like some people, sometimes acquire a depraved appetite. If they are forced to drink stagnant water for a time they acqire a taste for it and by and by prefer it to pure water. The lesson is to keep stagnant water out of the pastures.

It is not necessary that a new sow sucking a litter of pigs should lose flesh; after all danger is past feed sufficient to keep her in good flesh.

If too much corn is fed it not only creates too great a heat in the blood of the sow, but makes the milk rich and constipating.

"Do you think our forefathers set up an enduring republic?" "I should say they did. And it's enduring a whole lot more than they ever thought it would have to, I'll bet."—Chicago Record-Herald.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

HAY PRESSES LEAD
IN DURABILITY AND CAPACITY
OLDEST AND BEST KNOWN. MANY STYLES.
HORSE OR BELT POWER. GET PRICES AND TERMS.
KANSAS CITY HAY PRESS CO.,
No. 451 Mill St., Kansas City, Mo.

When writing advertisers mention Cultivator.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

DRY FEEDING.

(3rd Chapter.)

I wish I could give you the whole of Mr. P. R. Parks' article on dry feeding. I have only room for quotations of parts of his paper. He commences with young chicks on the dry chick feed, which he makes of a mixture of assorted grains. He keeps a dish of beef scraps standing constantly before them, feeds the chick feed in litter with plenty of green food (cabbage or green grass). By this means they have an incentive to scratch from sunrise to sunset, and take their food slowly and naturally. With the beef scrap always within reach, they at no time crave more animal food. Their systems rapidly adapt themselves to the season of plenty and nature constructs a body planned for a continuation of this same diet, namely: good, thick, strong legs and frame, and a chicken that looks ready to eat at any stage of the game, long bodied, short-legged, hardy, "born to live" looking fellows.

When they reach a more mature age, say from six to eight weeks, we place them in colony coops on grass range and soon discontinue the wheat, feeding cracked corn and beef scraps in hoppers, feeding once a week or oftener, as the size of the hopper and number of chicks demand. These hoppers should be made quite high in front, three inches or more, as the birds are always looking for the largest pieces of beef scraps, and with low front hopper waste quite a little by throwing it out with their bills. This system continues until the sexes are separated and then we place the males in yards sufficiently large so that the birds never eat them bare of grass. Placing cull cockerels intended for market by themselves, we compound a mixture of equal weights of corn, wheat, oats and barley, ground fine as flour, if we can induce the miller to reduce it to that fineness, feed it dry and continue the beef scraps. This mixture has given us fatter chickens than we have ever been able to produce by any other system.

A mixed lot of cockerels is about as uncomfortable a set of individuals as is ever gotten together and this is the only system by which each bird can be fed singly. Here each one goes to the hopper and eats as long as he has plenty of saliva, then moves away allowing the weaker brother to come up and take his turn. They must necessarily eat slowly because they can swallow only a small amount of this dry mixture at one time, and thus each one has an equal opportunity.

Here the digestion of the food begins in the mouth. If the crop of one of these birds is cut open, in place of the sour, partly fermented food that is found in a mash-fed chicken, we find the grain as sweet as ever, but smelling as though partly cooked, no fermentation of any kind, and we think the crop now does the work nature intended for it. Your mash fed chicken gets up in the morning, waits around an hour or two until the pleasure of the feeder brings around a pail of hot or cold mash, which is placed on the boards, troughs or other devices, and a wild scramble begins. Each one gulps what he can reach, the weaker get a little, and the stronger the bulk of the feed. If the mash is hot, it raises the temperature of the bird above normal and sweat is started, which is anything but what it should be, laying the foundation of colds and roup. The food goes through the crop with very little change except fermentation, direct to the gizzard and the entire work of the digestive system is thrown upon the gizzard and the intestines; whereas the crop should have done quite a little towards softening and partly digesting it.

With the chickens on range, this hopper of feed awaits them immediately they are off the perch in the morning and they then start upon the day hunt over the fields for the bugs, worms, grasshoppers and grass, which go to make life one sweet dream for poultry. At any time during the day that their appetites dictate they can call at the hopper and get a supply of such food as they desire, and eat it unmolested in a very gentlemanly and ladylike manner. Much more uniform gains result; the younger and weaker chick thrives as well as the larger and stronger; summer chicks grow practically as well as the spring hatched, and bowel trouble is a thing unheard of from the shell to maturity, if the proper heat is maintained in the brooders and the grain and beef scraps used are of the finest quality.

When the pullets go to the laying houses, they are fed cracked corn, wheat, oats and barley; fifty per cent, however, is corn. A hopper of beef scraps is still kept before them, but we now add a hopper of dry bran. The whole grain is fed in litter three times per day. Birds are kept scratching for all their grain but they have cabbages to eat always before them. If cabbages are not plenty we use cut clover, scalded to soften it, fed in deep troughs. We have used with good success a dry mash consisting of twenty-five per cent corn meal, twenty-five per cent beef scraps and fifty per cent bran, fed dry in boxes during the morning, giving what they will eat up by noon when we feed a light feed of whole grain, with another full feeding at night. A good egg yield will result from this ration if the ground grain and beef scraps are of good quality. We would say ninety per cent of the chickens raised in the country do not have sufficient food to develop as they should. Over-feeding would be much better expressed as improper feeding.

As to fertility we think no system of feeding can equal this method. The eggs uniformly test well and the germs live right through and hatch good, strong, bound-to-live chicks that are ready to take up with the dry feed method where their ancestors began. No weaklings result, provided the other conditions surrounding the birds are properly met. Each generation of chicks seems hardier than its ancestors, and are more cheaply raised, for any increase in the general health of a flock must give decrease of mortality.

White Plymouth Rock Poultry Ranch
Write us your wants.
J.T. DAVIS, Prop. POMONA, CAL.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at 1903 Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR, GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 23279 Los Angeles, Cal.
RANCH: Northeast Corner Florence and Alameda Sts. Take Long Beach Car Line to Florence Ave., thence East One-Half Mile

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.
Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

In order to give the method a proper trial make up your mind to try half the flock, for one year with this scheme, starting with the chicks from the eggs, or at any other time that seems best and continuing the experiment until the year is through a full twelve months. The general health of the flock is no small item in reckoning up your assets for the coming season. Be sure and take account of it. So much of the poultryman's prosperity depends upon the health of his flock that any step which may bring up the general tone should be eagerly sought and rigidly adhered to when once found."

* * *

Next week I will try to give a short synopsis of Dr. Sanborn's method of dry feeding and the following week a talk on our enemy, roup.

* * *

EDITOR'S QUESTION BOX.

Rheumatism.—(G. A. J.): I have a half-grown turkey that went lame when it walked. I could not discover anything wrong with its feet. The other foot finally became affected the same way, so that it does not walk at all. It eats, but not greedily. Its feet feel cold to the touch. Can you tell me what is the matter with it, and what treatment will affect a cure?

Auswer.—Your turkey is suffering from rheumatism. For treatment feed an abundance of green food. Give also meat or animal food, and add a little of iodide of potassium to the drinking water. Fifteen grains to the quart of water. Give in small dish to avoid wasting it. This is the best internal remedy. If you are in the country away from a drug store, you can try giving half a teaspoonful of baking soda in a pint of water. Bathe the feet and shanks with the following lotion: One cup of vinegar, one cup of turpentine and as much saltpeter as it will take up (about a tablespoonful). This lotion is excellent for man or beast and suits fowls and turkeys equally well.

* * *

Chickenpox.—(N. Y. C.): I am having a terrible time with my chickens and turkeys. I have never had much sickness in the two years I have handled chickens, but several months ago bought some new White Minorcas, and among them one had very sore feet and legs, and warts on its head, at least they resembled warts. They are hard and black. I have used sulphur and lard, also oil and lard, and succeeded in drying them up, but as fast as I dry them up they break out afresh on some other hen. This morning I feel discouraged and write to you for advice. Some of their eyes are closed and when I open them can pick out sheets of white mattery composition, especially on the turkeys. I feel quite sure it all started from those hens. Can you tell me what it is and what to do for it?

Answer.—Your turkeys and chickens have the chickenpox. It is very infectious, and was brought into your yards by the strangers you bought. It is a germ disease, the germ finding entrance in any slight abrasion, wound or bite and forms a scabby ulcer which may appear on any part of the body, but more often on head, wattles or wings.

It is not often fatal on the old birds, but is dangerous for young fowls. The treatment is to anoint the sores with carbolic salve or carbolated vaseline, washing them off with warm soap suds in which are a few drops of carbolic acid. Disinfect your premises thoroughly and give a little sulphur in the food for a week.

SKIM MILK FOR POULTRY.

A reader of the Farmers' Tribune reports that she can buy skim milk from farmers delivered at her home at fifty cents per barrel, but she is in doubt as to whether it is good business to pay that much for skim milk. Fifty cents per barrel is approximately equal to 16 cents per hundred weight. As a chicken feed, skim milk is fully worth that much. In fact, it is worth that as a hog or calf feed, and it can be fed with greater profit to poultry than to any other farm stock. We, therefore, feel justified in urging our correspondent to give the skim milk proposition a thorough test. Skim milk is especially valuable for young growing chicks, whether they are intended for layers or for the market.

A few years ago the Indiana station made some experiments with feeding skim milk to poultry. The chickens were divided into two lots of ten chickens each, that were from four to six weeks old. The experiment was begun about the middle of July and was continued until close to the middle of September. Both lots were fed a grain ration composed of two parts of crushed corn, one part of wheat bran and one part of ground oats. In addition to this, the chickens in lot one received all the skim milk they could eat, while those in lot two received water in place of milk. Both lots had free access to water, cracked bone, cabbage and lettuce. The lot that received the skim milk gained 4.6 ounces per head per week, while the lot without skim milk gained 2.62 ounces per week. The more rapid gain made by the skim milk chickens was partly due to the fact that they consumed more grain than those that were not fed milk. The average food cost of a pound of gain was 4½ cents, while in lot 2 it was 3½ cents. In figuring the cost of this gain oats were valued at 80 cents per hundred weight, corn meal at 80 cents per hundred weight and shorts at 60 cents, while skim milk was valued at 20 cents per hundred weight.

According to these figures our correspondent can afford to pay as high as 25 cents per hundred weight for skim milk where grains are valued as indicated above and still utilize skim milk to advantage. The wonder is why farmers are willing to sell this valuable product for a price as low as 15 or 16 cents. It is probably true that almost every farmer can feed his own product and derive a greater profit therefrom than he can by disposing of it at the price mentioned.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT **Calfalfa Meal** ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings, or Oil Cake Meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application

MILLS West & Nielsen Aves

California Stock Food Co.

FRESNO, CAL.

OFFICE 121 Forsyth Bldg.

When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

WHEN BIDDY MOULTS.

(Written for the Cultivator.)

When the feathers fall from the hen
And nearly cover all the pen,
That's the time to keep them clean,
And feed them lots of green.

Don't be discouraged when eggs are few,
Biddy must rest, the same as you. ..
So feed her up with scraps of meat,
And give sunflowers for a treat.

The moult, it is a trying time,
But don't allow your hens to pine;
Give them fresh water thrice a day,
And if you have it, milk or whey.

Keep all their houses clean and nice
And you will have no mites or lice,
And always have a box of grit,
And charcoal, it will keep them fit.

Don't forget to give them shade,
I have always found it paid,
And very soon I think you'll find
That hens will pay, if you are kind.

And if your hens look very ill,
I would not chance to give a pill,
But rather—to change the picture;
Give a dose of "Douglas Mixture."

One of the best foods for laying hens is wheat. Corn should be used sparingly as it is a fattening food and not well calculated for egg production. A certain amount of it, however, may be fed without injury, and no doubt always will be where corn is the cheapest of the grain foods. One can often purchase wheat screenings, or wheat that has been damaged, at a low price per bushel, and whenever this can be done, advantage should be taken thereof by poultry raisers.

Do not waste your time with scrubs. Pure breeds always give the best results, both as to eggs and flesh. Adapt the breed to your climate, soil, and other conditions. Aim to have something superior to your neighbors. Try to get to the top and stay there. Friendly rivalry gives pleasure to poultry keeping. Send some of your birds to your poultry show.

TESTING EGGS.

A simple way for the housewife to test the eggs from a newly found nest, or purchased from the grocery, is to put them in a pan of water. If they are perfectly fresh they will go to the bottom and lie still, directly on their sides; if not quite fresh they will tilt a little and rock about and if very bad, will float on top of the water. It is best to try one at a time.

A little work now, and the expenditure of a few cents for lining paper will serve to make the poultry-house comfortable, with no danger from drafts. Where lining paper is not available, old newspapers, three or four thick, tacked on the walls, will keep out all drafts of air.

Look after the chicken-house window, for a draft is deadly. This question of proper distribution of air is an important one. Let the houses be open every sunny day. Keep them cosy, clean, and comfortable and the reward will surely follow.

Construct your house good and warm so as to avoid damp floors and afford plenty of sunshine; comfort and convenience are more essential than any particular styles; have plenty of ventilation, have the roosts arranged so that they will be away from the nest boxes. Have everything inside easily movable.

The flesh of a duck is of a savory and somewhat of a stimulant nature, and is said to afford a preferable nourishment to that of the goose, being more easily digested, and that of the wild duck is rendered still more easy to digest than the tame, although more savory.

In selling geese it is nearly always best to keep the old ones and sell the young ones, for while the older ones produce the stronger progeny, the younger will bring the best price. In fattening geese for market if in a good condition and well fed, ten days is usually sufficient.

Medicine is good as medicine, but as food it is hurtful and sooner or later bad results will follow. All the stimulants growing and breeding fowls need are wholesome food and drink; these, with clean quarters and opportunities for exercise will keep the fowls healthy.

Hens like to lay in a rather dark nest, the opening of which is hidden from view. If box nests with the opening toward the wall are placed in the poultry house, very few hens will steal their nests in out-of-the-way places.

From this time on during the rest of the summer considerable care must be taken to see that lice and other vermin are not exhausting the growing chicks.

Burnt corn is a most excellent thing to feed to poultry and is far superior to charcoal, which, however, has a wonderful effect in promoting the health of fowls.

NATURAL HEN
Incubators and Brooders

Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

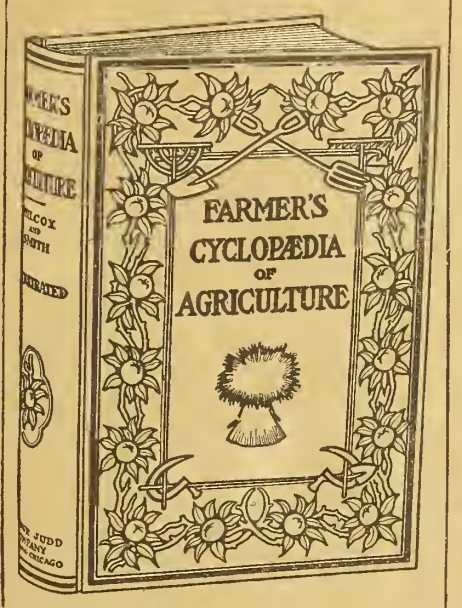
ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5 00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

Farmer's Cyclopedia of Agriculture



A Compendium of Agricultural Science and Practice on Farm, Orchard and Garden Crops, the Feeding and Diseases of Farm Animals, Dairy Farming, and Poultry in the United States and Canada

Authors: EARLEY VERNON WILCOX, Ph. D.
CLARENCE BEAMAN SMITH, M. S.
Assistant Editors in the Office of Experiment Stations, United States Dept. of Agriculture

The World Moves

and whoever would not be left behind must lay hold on every means that enables him to move with it. As a basis of one's efforts nothing is more essential than the possession of a good work of reference

Adapted to the Conditions Peculiar to California and Adjoining States

The Farmer's Cyclopedia embodies in its many articles, most of the results of years of painstaking work at the California and neighboring State Agricultural Experiment Stations. It is thus, in effect, both a digest of local and state experience, and a compendium of general knowledge, all of which will prove of indispensable helpfulness to everyone in this section.

The Last Twenty Years of Progress

have measured more changes and recorded more advances in every branch of agricultural science than have been achieved during the hundred years preceding. During all these years no reference book adequately covering the subject has been issued.

The plan of this work is most comprehensive. Every article has received the most careful preparation at the hands of the authors, who have enlisted the co-operation of the highest authorities in the various departments. The greatest educators of the world, representing every branch of agriculture, here unite in one immense faculty to present directly and plainly the pertinent facts of their specialties. Every statement is authoritative and absolutely reliable.

If you wish to know about field crops, garden vegetables, fruits, nuts and other economic plants, farm animals, dairy farming, poultry, also manures, fertilizers, principles of feeding, soils, drainage, irrigation, spraying, veterinary medicines, etc, etc, it is here. Everything concerning farm matters is treated with great thoroughness, though without undue fullness. We claim for it the unique distinction of presenting for the first time, in a carefully arranged and perfectly accessible form, an accurate summary of every subject of interest to farmers, etc.

Over 6000 Topics Indexed
A Wealth of Illustrations

An important part of this work is its very complete and elaborate index, with cross-references under both scientific and common names, so that any information wanted can be found at once. There are between 6000 and 7000 topics covered in these references, making the most perfect index to agriculture ever attempted. It contains 700 royal octavo pages (9½ x 7 inches) and nearly 500 superb half-tone and other original illustrations. Type, paper, printing and binding are all in the highest style of the bookmaker's art, worthy alike of the well-qualified authors, the enterprising publishers, and the industry of agriculture.

PRICE IN HALF MOROCCO, $4.50

To Cultivator readers we make this proposition:—Fill out and sign the enclosed coupon and mail to this office and the book will be delivered postpaid at once and your Cultivator subscription advanced one year.

CUT OUT AND MAIL THIS COUPON AT ONCE

CULTIVATOR PUB. CO., LOS ANGELES, CAL.
Please enter my name for one year (NEW OR RENEWAL) and send me the Farmer's Cyclopedia of Agriculture, half morocco. For both together the price to be $5.00, which I agree to pay as follows: $1.00 on the first day of next month and $1.00 on the first of each of the succeeding four months. Until the $5 is paid in full title to the Cyclopedia to be vested in you.

NAME.....

P. O..... STATE

Our Mountain Forest Trees

By Frank Femmons, Home Orchard, Awahnee, Cal.

Between the Merced river on the north and the Kern on the south, and covering in a continuous belt the mountain sections of Mariposa, Madera, Fresno and Tulare counties, is one of the finest forests of pine, fir and other timber trees in the west, if not in the world. A forest of similar tree growth and species extends from north to south through the entire length of the State, but nowhere else does it reach such grand development of the different species. The redwoods (Sequoia sempervirens) of our northern coast counties and the firs of the Puget Sound country of Washington may challenge the admiration of the world, or the eye of the lumberman, but for diversity of useful species, the size and length of their growth, and their beautiful grandeur as a mountain forest they have no equal and are becoming year by year, more and more the admiration of the thousands from all over the world who visit the Yosemite and other portions of our mountain scenery.

Pine, fir and oak, each of several species, with sequoia (gigantea) and cedar form the larger tree growth, and blooming shrubs at different altitudes or many of them intermingled over a wide range, give a wonderful variety that is pleasing and harmonious, and to one who loves the woods gives a never ending pleasure by their varied forms and groupings. Some of us who have spent a considerable part of life in every day association with their many and ever-changing beauties find their charm the more pleasing as the years go by. There is something in our nature that feels at home in the woods—a feeling as towards some elder brother, binds us to some beautiful monarch of the forest. "The groves were God's first temples," and the towering spires of some forest covered mountain peak brings to the heart the crowning inspiration from the architecture of nature.

When Beauty enrapt at the shrine of the grand,
Is ever advancing through works of His hand,
In mountain cathedral, where majesty dwells,
In sun gilded domes and tree clustered dells.

* * *

But I began this to say something, in my own way, of our different forest trees. It is easy to think of this tree as a pine, or of that as an oak. Certain peculiarities of form, growth, or leaf connect them with some particular class or family. We need not mistake an oak for a pine or a fir for an alder, but most families of trees are divided into many different species, all closely related, as if originally from the same stock. In the United States we have about seventy species of the oak (quercus) family and about forty of the pine. Each species of a family has many characteristics common to the others and some found in no others. When a group of trees resemble each other in their constant characteristics, we think of them as belonging to the same species. Local conditions of soil and climate often cause a difference that is sometimes confusing, and when we observe and remember the fact that every individual tree has its own characteristics—an individuality of its own—no two of them alike, the confusion in names we so often see would seem to be explained, but some of the mistakes are misleading. Quite recently I saw the "poison oak" (Rhus diversiloba) classed among the oaks of California, and often our foothill or gray-leafed pine has been confused with the contorta, the shore scrub pine of our northwest coast, and I have also seen it referred to as the coulter pine, which is found only in the higher ranges near the desert in the southern part of the State. No doubt some dendrologist will pick over the mistakes of this.

Nearly all the forest growth, both tree and shrub, is evergreen. One of the first pleasing surprises every newcomer meets in California is this evergreen character of its tree growth. It is expected in the pines, but to see it in the broad leaves of the manzanita, the laurel and many of our oaks, gives a sensation that is hard to realize at first.

On the line of the Raymond and Yosemite stage road can be seen nearly all the different species found in this part of the State, and in the rich profusion and constantly changing character of their forms and associations, seen as the road climbs higher or winds along the streams or around some mountain side, presents a charm and fascination that gives a new sensation of delight with every turn. During the spring months of April, May and June, our mountain forest is in its greatest beauty.

Soon after leaving the treeless plains of the San Joaquin valley, the oaks attract attention. At first a few scattered here and there among the lower hills but they become more and more numerous as we climb higher. We have seven different species of oak in this part, two of which are evergreen, and one that drops a portion of its leaves in the fall or during the winter, and four are deciduous.

* * *

White Oak.—(Quercus lobata) Is our largest and one of the finest of the family. It is found on low or moist land and will be frequently seen from the low foothills to near four thousand feet altitude. In many places it assumes a noble proportion and aspect—body often four to six feet in diameter, with a heavy wide-spreading crown and arching limbs. Some of them have a pendulus growth—long, slender, vine-like spurs from the larger limbs trailing almost or quite to the ground. The one that gave the name to Big Oak Flat, in Tuolumne county, was over eleven feet in diameter, and still lies there, a fallen monument to the sacrilegious greed for gold. Its prostrate, weather beaten trunk seems yet to express a sorrowing appeal for protection. The few dollars of gold obtained at some time from among its torn up and cut away roots were but a poor return to the world for the life of that tree. As one stands beside it now and lays a loving hand against its still rugged form, with but the decaying stubs of its noble old branches, its mute voice seems to reach the heart—a requiem to the desolation around it.

The dark green, deeply lobed leaves and the darker heavier bark give this species a strong contrast with the

Blue Oak.—(Douglasii.): Growing over about the same habitat, but always on the high, dryer ridges. This tree often assumes some very picturesque forms. One with a rounded, well balanced top is an exception, but once in a while you will see one that seems to have made an especial effort to grow beautiful in shape, and it is certainly a beautiful tree. In many specimens a single limb will grow out in some horizontal direction and would seem determined to have an idea of its own, and get away from the rest of the tree, or perhaps the direction of growth is abruptly turned. I know no trees that will assume so many odd and grotesque forms. The leaves are small, with a general oval shape and their bluish shade of green gives a distinctive characteristic to the tree. It was named for David Douglas, a Scotch botanist who visited California and the Pacific coast in 1826, and first discovered the sugar pine on the upper Columbia river in Oregon, beside many other of our western coast trees. Had he penetrated into the then unknown Sierra Nevadas from his landing at Monterey, what a wonderful storehouse of Nature's choicest tree productions would have met his wandering and lonely steps.

* * *

Black Live Oak.—(O. Wislizeni) Occupies and grows over nearly the same ground as the two preceding, but not so abundant in the lower hills as at a little higher elevation. Usually it assumes a rough, scraggy, scrub growth, but on rich, deep soil attains something of a tree form and it is sometimes fifteen or twenty inches in diameter and a rough open top. The leaves are small, oval in shape and most of them are armed on the edge with stiff, irregular spines, and are glossy dark green, although not so dark as its near relative the Coast live oak (Q. agrifolia) but in habit of growth very similar.

* * *

Chestnut Oak—(Q. densiflora): A few solitary specimens of this species are found here and there in a narrow belt between two and three thousand feet. This is our semi-evergreen oak, but the younger trees usually carry most of their leaves through the year. The leaves are somewhat similar in shape to the chestnut, and the burr produces a very few acorns, some none at all. The trees are so few and scattered that if not pointed out would scarcely attract attention. The finest I know grows by the side of the road in front of the Crooks residence near Gertrude.

* * *

Black Oak.—(Q. Californica): This was generally known until recently as Q. Kelloggi. Why the name needed any change, I do not know, but as it is found in nearly all the wooded sections of our State and at almost all altitudes where trees will grow, and as no one need mistake it in any situation, the new name would seem to be typical. You will find it in the rich little valleys of the upper foothills, along the streams and on the hillsides throughout the timber belt and battling with the storms and the snows on the crags and rocks above, but reaches its best development along the lower edge of the pine belt. It was this tree that produced the acorns that formed one of the principal foods of the Indians.

* * *

Scrub Oak.—(Q. dumosa) (?): I don't feel quite sure of the identity of this. It is confined to a very narrow belt at about 3000 feet. It is a small, growing shrub, but sometimes gets to a height of twenty feet if on good soil and fires do not reach it. The bark is thin and on the larger growth resembles that on the young white oak of the Eastern States. The leaves are deeply lobed and deciduous and the little shrubs produce abundantly the most beautiful acorn of any of our oaks. They drop from their shallow cups as soon as ripe, and as they are quite sweet are soon gathered up by the squirrels and other animals.

* * *

Golden Cup Oak.—(O. chrysolepis): Although this has been reserved to the last in the list of the oaks found in this part of the State, I think it is the most interesting and beautiful tree we have. It is so varied in its form and character that each individual tree has an expression of its own. The body is usually short and frequently divides near the ground into two or more stems, but uniting to form a wide-spreading crown and always, whether growing in an upright or drooping form, seems to be seeking some new ideal of beauty that is found in no other tree. Many of them when not injured by fires or other changing conditions reach almost perfection in many forms of symmetry, and however beautiful we think any of them, we soon learn to expect some new beauty in the next one we meet. One standing in the yard at Home Orchard and each year growing to a nobler perfection, has been imperfectly described as,

The twin-bodied oak, with evergreen crowned,
Whose limbs arching out are reaching the ground—
The dome of its branches a sylvan bower
Where birds chirp and chatter their happiest hour—
The breezes play through it, and shimmer and sheen
Are dancing with light through its dark, glossy green.

This oak is found in almost all situations over a wide range of our mountain slopes above two thousand feet, or about the same as the black oak, but the growing habit of the tree is so much more pleasing and seems in all places to fit into such a perfect harmony with the surroundings, that our forest hills would lose much of their charm without it.

The best medicine—cheerfulness and temperance.

Your Last Chance

To Go East at the Exceptionally Low Rates in effect via the

SALT LAKE ROUTE

Tickets on sale September 7-8-9-10 11-16-17.

SALT LAKE ROUTE

Saves you Time and Money to New York, Chicago, St. Louis, Memphis, Omaha, Kansas City, and all Eastern Points
If you are going East call on the nearest representative of the Salt Lake Route, or drop a line to H. F. Gentry, Traveling Passenger Agent, Los Angeles, who will be glad to plan your trip so as to secure you the Maximum Pleasure at the Minimum Trouble.

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

Queries and Suggestions

THOMPSON'S SEEDLESS CUTTINGS.

A subscriber at Edenvale wishes to know where he can secure cuttings of the Thompson Seedless grape.

Almost any grape grower can supply the cuttings desired, or we are sure either the Fancher Creek or the Fresno nurseries can do so. Either can be addressed at Fresno.

ESTIMATING LUMBER IN LOG.

Editor Cultivator: How many feet of lumber in a log two feet in diameter and one hundred feet long? Uniform in size from butt to top. The log is not supposed to be sawed into lumber, but just estimated. This is to settle a wager.—A. B. G., Ukiah.

The Cultivator not being a lumberman's paper, has no specialist on hand who can figure out for our subscriber the number of feet but, by reference to tables, we can give him, perhaps, fairly accurate figures. We take it he means regular board measure, which assumes the lumber to be an inch thick. We find by reference to tables that there are some forty-three systems of scaling logs. The oldest of these is called Scribner's scale, which is approximately an average of the others, for we note there is much diversity in them as to the amount of lumber which is contained in the various sized logs. However, taking the Scribner system as a basis the log which you mention would contain 2525 feet of merchantable lumber.

CARE OF VINES.

Editor Cultivator: Do Loganberries need water at this season? Shall I let tops die or cut off? Also shall I continue to give blackberries and raspberries water? Also, have a bed of Jessie strawberries, set one year ago. Bore a fine crop this season. Will they bear next season, or will I have to set new plants? Do strawberries have to be irrigated through the dry season? Which is better, to let the vines run or keep them in hills? Should asparagus be irrigated after crop is gathered?—Subscriber, Fallbrook.

The loganberries, blackberries and raspberries should be kept in fairly good growing condition during this season for the formation of strong canes for next year. Care should be exercised also in removing the canes of last year's growth which bore fruit this year. In fact, this should have been done immediately after removal of the fruit. Blackberries and raspberries should have the new canes topped, so as to induce branching out and giving more bearing wood for next year. Strawberries should have sufficient water to keep them alive, for they will not live through the summer season unless some water is given. Withholding water is often done to induce bearing at a certain period later, but this is not carried to the extent of allowing the plants to die, of course. The keeping of the vines in hills has the preference, for if you allow the suckers to root and make a complete mat of vines all over the row you will not have as large and desirable fruit as where you hold to one vine to the hill.

The asparagus should be kept in the best of growing condition during the earlier part of summer and later may be allowed to become partially dormant. Care must be taken not to allow it to dry out entirely, however, and then put on the water in midsummer, because this induces an out-of-season growth which is not best for the plants.

NON-BEARING PEACH TREES.

Editor Cultivator: I have large, thrifty peach trees that continue to run to wood and foliage, almost no fruit. Fruit is similar to the Crawford, but I wish to know what to do with the trees, or should I grub them out?—Mrs. C. E. McL., Ioamosa

It will be hard to give explicit directions as to what to do in such a case on such information, but if you find the fruit exceptionally fine, as we note you say it is similar to the Crawfords, it might be well to try summer pruning. Very severe summer cutting has sometimes made some trees bear very heavily. It should be done immediately after removal of fruit of the last year. This heavy cutting, topping back the entire summer's growth, or even more, tends to shock the tree to the end that it sends its vitality into fruit buds for the next year's fruit instead of continuing to send so much of its sap into wood growth. "Summer pruning for fruit; winter pruning for wood," is on old adage of the pruner.

UNFERMENTED GRAPE JUICE.

Editor Cultivator: Will you kindly ask for recipes for manufacture of unfermented grape juice?—H. C. M., Gaviota, Cal.

The Cultivator has in the past had extended articles on this subject and now refers the subscriber and others to Farmers' Bulletin No. 175, "Home Manufacture and Use of Unfermented Grape Juice," which may be secured by writing the Department of Agriculture, Washington, D. C.

ALKALI LAND.

Editor Cultivator: Kindly give information about black and white alkali land and advise me if such land is of any value. Does irrigation cause alkali to come up?—S. E. S., Livingston.

Black alkali is of such a caustic nature that but few seeds will exist in it, where in any quantity. Some white alkali land has proved remarkably productive, for it is almost invariably the case that all alkali land is rich in plant food. The black alkali may be changed to white alkali by the use of a liberal coating of gypsum or land plaster. But the best way to remove either from the soil is by a system of tile drainage which, while expensive, makes some of the most worthless of land, the most valuable. That is work which would require experienced men to direct, os that instruction in this paper as to detail would hardly be of service. Irrigation does not cause alkali, but does cause the alkali to come to the surface and become more apparent through the solvent nature of the water coming to the surface through irrigating, leaving a greater deposit on the surface than was perhaps originally observable. But where the land is under drainage the irrigation all helps to carry the alkali out of the soil.

Some plants that are excellent for forage, like the Australian salt bushes, have done well on land which was quite strongly impregnated with white alkali but most cultivated plants will endure but a very small percentage of it in the soil.

GOOSEBERRIES.

Editor Cultivator: Do gooseberries do well in Southern California? What are the varieties best adapted? Is there a law prohibiting the building of a fence on the line? Do rabbits or Belgian hares have roup, same as chickens?—Subscriber, Glendora.

Gooseberries will not do well in the drier and warmer parts of the State. In fact they have never done well south of Tehachapi and are of very limited culture. The Downing is probably the favorite, if any variety is to be planted in that end of the State.

Certainly there could be no preventing the building of a fence along the line. As to whether you can build on the line, compelling the neighbor to join in the building of the line fence, we question. In fact, one attorney has informed us that it can not be done.

The query as to Belgian hares we are unable to answer, for while there are some diseases which affect them, we cannot say whether they would be affected by the poultry diseases or not, and ask our subscribers who have had experience along that line to inform us.

BELGIAN HARES.

W. Robinson, San Bernardino, can perhaps get the stock he wants by writing to Edward Ochs, Moneta, Cal.

BUFF ORPINGTONS.

Mrs. V. V. Jerome, of Downey, Cal., writes us in answer to query that she will be able to supply newly hatched Orpingtons in about ten days. Mrs. Jerome ought to place an ad in the Cultivator.

EUCALYPTS FOR THE FARM.

(Continued from First Page.)

foliage has yielded by distillation 64 oz. of lemon scented oil.

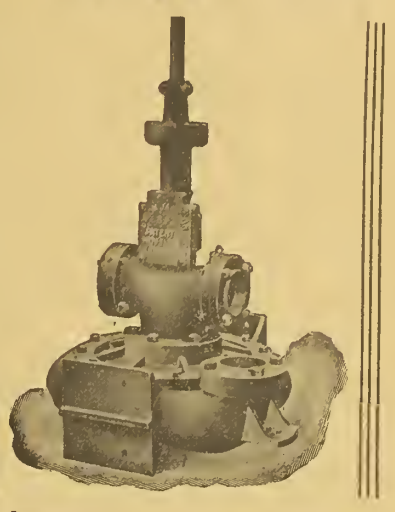
* * *

Other Uses.—No mention has been made of the importance of eucalypts as honey plants, yet nearly all species are valuable for their honey yield. One species (E. terminalis) known as the manna gum, yields a sweet gum much relished by the natives as an article of food. Several species yield heavily of tannic acid, yielding above 65 per cent. One quite extensively planted in California (E. tereticornis) yields 62 per cent of tannic acid and 28 ounces of oil from 100 pounds of dry leaves. E. naemastoma, which yields 66 per cent of tannin, gives 33½ ounces of oil from 100 pounds of green leaves. E. sideroplhoia, well known here, yields 28 per cent of tannin and 42 per cent of arabin, by which it will be seen that they yield numerous products of commercial value. In Australia the leaves and small branches of E. microtheca are placed in water to poison fish and the inner bark of the same species is used as a poultice for snake bites.

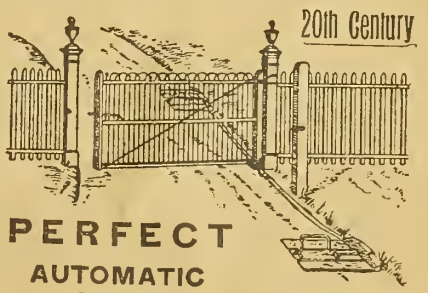
BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Block 1297
Pasadena, Cal.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator

WELL DRILLING MACHINERY
Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.
Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia
When writing advertisers mention Cultivator.

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump
This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.
BYRON JACKSON MACHINE WORKS
411 Market St. *San Francisco, Cal.*
When writing advertisers mention Cultivator.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST
PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00
NOTE—After July 1, 1905, above prices take precedence over all previous lists.
M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.
When writing advertisers mention Cultivator.



PERFECT
AUTOMATIC
GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. *Works 365 days each year. NO OILING*—ten minutes each year and 10 to 20 cents expense—*no more.*
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California
When writing advertisers mention Cultivator.

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.
Send for samples.
PRICES
12 inch long, $ 9.00 per 1000
14 inch long, 10.00 per 1000
16 inch long, 11.50 per 1000
18 inch long 12.50 per 1000
24 inch long 15.00 per 1000
30 inch long 17.50 per 1000
Agents Wanted Everywhere
YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.
When writing advertisers mention Cultivator.

THE ROSE AND THE LILY.

In the long, long ago, so they tell me,
In a garden (where, nobody knows),
There grew a sweet, modest white lily
And a homely, old-fashioned rose.

And they both loved the amorous West Wind,
Just why, I'm sure nobody knows,
And the Wind was in love with the lily
That grew by the homely white rose.

In the night came the amorous West Wind,
Confused by the dark, I suppose;
And the kiss that was meant for the lily
Was pressed on the lips of the rose.

And ever since then, so they tell me,
Wherever a sweet garden grows,
There's a paleness of grief o'er the lily,
And a blush on the face of the rose.

San Francisco Bulletin.

SATURDAY NIGHT.

Placing the little hats all in a row
Ready for church on the morrow, you know;
Washing wee faces and little black fists,
Getting them ready and fit to be kissed;
Putting them into clean garments and white;
That is what mothers are doing tonight.

Spying out holes in the little worn hose,
Laying by shoes that are worn through the toes,
Looking o'er garments so faded and thin—
Who but a mother knows where to begin!
Changing a button to make it look right—
That is what mothers are doing tonight.

Calling the little ones all round her chair,
Hearing them lisp forth their soft evening prayer,
Telling them stories of Jesus of old,
Who loves to gather the lambs to his fold;
Watching, they listen with childish delight—
That is what mothers are doing tonight.

Creeping so softly to take a last peep,
After the little ones all are asleep;
Anxious to know if the children are warm,
Tucking the blanket round each little form;
Kissing each little face rosy and bright—
That is what mothers are doing tonight.

Kneeling down gently beside a white bed,
Lowly and meekly she bows down her head,
Praying as only a mother can pray,
"God guide and keep them from going astray."

The Strike at Nixon's

PART II.

Mr. Nixon's temper and temperature rose simultaneously. Here was a hen—or possibly a rooster which might have been sold in the fall, to be eaten at a picnic. Besides, there were all those other expensive things. They had dared to prepare them and go without his consent! In fact, was not this open defiance of him? Yes. They would find out now "who was who!" Then, too, he had found Aunt Clarida Perkins and her reticule, whom the stage had conveyed hither, waiting patiently on the doorstep till someone should appear. Reluctantly he drove with her to "Cousin Abiram's," three miles farther on. Another hindrance because the women were not at home!

As might be expected, the interview upon their return was a stormy one. He rightly guessed that Viny was largely responsible for the act, and spoke accordingly. Mrs. Nixon had been acquiescent so many years it would hardly be wise to credit her with revolt. But, in thinking to subdue Viny, he "reckoned without his host." True, she was only a woman—but she was a Nixon!

"You can take your choice," he declared in conclusion. "Remember now, no more of this galavanting round the country or you can pack your duds an' get right out, for good an' all, both of you!" this last spoken in the italics of suppressed rage as he left them.

Mrs. Nixon was frightened. Viny stubbornly defiant. They held a long consultation in the parlor bedroom.

Mr. Nixon's note for the next day read thus: "Pa: We are taking the stage to Freeport, duds and all. We have enjoyed a little rest and change and being like other folks. We shall stay to Uncle Rastus's till Sunday and just let on we are visiting. If you want us to come back bad enough to give us the egg and butter money and a chance to go, once in a while, without being grumbled at, come for us then and we will work for you same as always. If not, we shall tell why—then go into the factory and take care of ourselves. Viny."

He was nonplussed, angry, chagrined. It was a thoroughly unexpected move; yet he believed himself master of the situation. His eyes which once were a fascinating, changeful blue, now turned to a stern, loveless gray, with a foxlike cunning lurking about them.

Sunday afternoon Zed drove to Freeport, a willing but unconscious participant in the comedy tragedy being enacted. Immediately after, Mr. Nixon caught up his hat and crossed the road. Restraint was gone. A beastly ferocity came to the surface.

"I'll learn the little Luzzy a lesson she won't forget! She don't defy me again! I reckon this'll cut into her high-flyin' notions," and he fingered the rawhide lash of a whip. "It's that damnable 'woman's column' that's to the bottom of it all—I know 'tis. When she's spent a few days in the corn house chamber on prison dainties, she'll let 'well enough alone,' maybe!"

The corn house was really a small granary. Below were grain bins and a tool room; above, corn, ground feed, and broken castaways without number. Searching among miscellaneous irons in a nail keg, he finally drew forth a short chain, two staples and a padlock; with these and a hammer he went upstairs. Heavy blows racked the thin partition which divided the corn room from the rest, as the staples were driven deeper and deeper. The chain rattled against the door latch and broke in upon the Sabbath stillness, with a wierd, uncanny sound; but the man, listening, laughed exultantly.

Inside, a window in the gable was half hidden by spider webs, black and dust-laden. He laughed again. "Guess I'll leave 'em; she hates 'em so it'll make it worse an' worse." A broken chair and a heap of grain bags were thrown into a corner. "She can make a bed of them, or set up, just as she likes!" he muttered. Then he locked the outer door as he left, taking the key.

At Freeport, Viny and her mother were getting anxious.

"It's 3 o'clock an' he hain't come yet! Whatever'll we do if he don't?" whispered Mrs. Nixon as she drew Viny to one side. Her voice trembled. "Why just what we said we would, of course." Viny was not as sanguine as her voice implied, but hers was the Nixon spirit—not easily quenched. "If there isn't Zed coming!" she exclaimed rapturously a few moments after, and she rushed to the door. Her father had relented! The fact turned her head and she appeared unreasonably glad to see the hired man. Aunt Mary looked at her quizzically, wondering if "the girl were in love with that gawky."

"Gosh, yes, Mis Nixon! Jim's all right; he just 'lowed he'd ruther do chores than be jounced over these rough roads," Zed explained in answer to the wife's anxious inquires. "'Good 'nough, good 'nough, says I to him; for me, ridin' 'tween two such nice women's just like bein' the meat in a sandwich,' an' I slid into me meetin' clothes 'fore he had a chance to change his mind!"

The atmosphere was insufferable: not a leaf stirred. Waves of heat came up from the scorched earth, and the spokes in the wheels of the old democrat, rattled noisily over the stony highway. The horse stopped often to rest, panting for breath. Humanity seemed suffocating.

"There won't be half a pint left of me, time we get home!" Zed remarked as drops of perspiration rained off his forehead over his big face.

At this moment a breeze sprung up, cooling, welcome. Zed turned about surprised.

"Spooks o' Caesar! look behind ye. We'll need the ark next!" and he urged the tired beast into a trot.

Along the western horizon lay a dense mass of clouds, creeping up like some giant from an ambush. White, feathery portions were flying across the sky as from an enemy. The sun was soon hidden and a yellowish murky light took its place. The air grew strangely chill. Trees were now bending low in the gale and the first drops of rain fell as they alighted at the gate.

"Git them windows shut quicker'n scat!" commanded Zed; then, grasping the horse by the bits he started on a run for the barn, where, the moment he was released, the animal dashed under cover. Here, Zed felt himself lifted, carried—whither? He was dimly conscious that the wagon was being hurled end over end toward him. Fences fell like straws. There was a crash, then—forgetfulness!

Blackness of midnight seemed settling down. Yet the lightning gave flash views of the devastation being wrought.

Down cellar, crouching in the darkness, Mrs. Nixon and Viny listened in breathless suspense. Immense hailstones struck and bounded along the kitchen floor; the window panes must be broken! Viny felt rather than saw that her mother was kneeling at a preserve jar beside the vinegar barrel. Where was her father? Should she ever see him again? Why did she dread meeting him? Her thoughts added terror to the situation.

When the storm ceased, she spoke; there was no reply. She touched her mother; but there was no motion. She had fainted,

Terrified, Viny flew upstairs and out into the rain which was falling drowsily now. Could it be? She looked again. Yes, the horse barn was minus its roof and the corn house lay in a heap, crushed by the giant who came out of the west.

She called, frantically. Something like a faint echo answered her once—twice. Running to the farther barn, she called again. The answer was nearer. Back, on a rise of ground she found her father, pinned face downward under a fallen tree limb.

"Oh, pa! are you killed?" she asked,

HELP!
Settle Your Own Country
The
Santa Fe
is doing its share in trying to send more farmers to your country. You can help that work by a little effort.
Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.
Send list this week to
WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago
When writing advertisers mention Cultivator.

Sievert Oil Burners
Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.
1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

dropping down so as to peer under the branches.

"Not quite. Lift this off'n me! You can't? Get the saw—it's in the corn house—and break up the top."

She was gone. Then he remembered the corn house was locked! Had he, in his unrighteous anger toward her, sealed his own fate? He shrank from death. He must live. Yet how could he? This weight was crushing him! His life, with its mistaken ideal, the wrongs heaped upon the wife and child, rose before him. He tried to pray, and seemed to hear demons laughing at his misery!

Viny came, at last, bringing only a long pole and a saw horse. Then he heard the clink of a chain. Would she ever know about that other one?

"O, why don't somebody save my life! I can't breathe much longer," he moaned.

"You keep breathing," she commanded almost sternly in her anxiety. "I'll have you out in a minute!"

Crossing them at right angles, she bound the limb and pole together, placer the 'horse' underneath the latter, and then threw her body across its upper end. Her purpose was accomplished. The lever worked and the branches lifted a trifle. She crept farther out on the pole. The limb raised higher.

"Crawl out quick, pa! I can't hang here long." Her feet were off the ground and her temple veins stood out, rigid with the struggle.

He tried to obey her. Just then Mrs. Nixon staggered round the barn and in another instant was assisting the almost unconscious man to escape from his perilous position. Another moment and Jim Nixon's head was pillowed in his wife's lap.

"O, Ursula, it's too late to do different, but I hain't lived right—I see it! That woman's column was gospel! I'd orter divided, but I coveted the gold you helped me earn, an' kep' it like a brute! I wisht I'd give you more. Get the hen park and the pans and the muslin—when I'm gone—get back the comfort I stole from you! Yes—I was plotting against the child God gave me—against her mother, too, but He said: 'Thus far shalt thou go and no farther!' I heard it in the thunder! He struck me down! And to think I turned you out and then you—saved me! Forgive me—goodbye!"

Here, Zed came from somewhere, dazed and limping, but at sight of his employer, forgot that he was bruised: together they carried the half dead man to the house.

The delirium which followed, revealed the terrible secret of the corn house chamber, and Viny shuddered. He reviled them, drove them from him with curses. Later, he begged them to come back—prayed that they would not leave him to die alone! The mind mirrored the soul's passionate struggle—love against greed.

"Viny," he whispered one morning when reason had returned, "if you don't hate me, kiss me, child; tell me that you forgive the old pa that died in the tornado, and 'll help the new one to live better."

'I didn't do right, either, pa. I drove ma into acting so, just for spite," and Viny's tears glistened on the man's gray locks.

Her kiss, repentance and confession—how they comforted him. And he had thought to gain the latter with the lash!

"Never mind, Viny; you're worth more'n board'n clothes to me, now. We'll start new—work for each other's interest this time, 'n call the firm Nixon and Company.' Read me a little scripture from St. John and the 'woman's column' "!

Cookery Recipes

CANNING FRUIT.

Editor Cultivator: As I have been a constant reader of your prized paper, I will add my mite to the household department.

I notice all the recipes for canning in glass jars advise that after they get cool turn down the cover a second time. Now that is just what causes much good, costly fruit to spoil. The first seal is the only true seal. I have put up over 200 qts. of different kinds of fruits and not one has made a bubble yet.

This is my way: I fill all the jars I can get in a tub without being so close together as to crack any. Put on rubbers and tops and screw tight, and then unscrew one turn so all air can escape while they boil, then put on cold water two thirds the way up the jars and set on a hot fire. Cook rapidly till all are done. Now have on the stove a saucepan full of the same kind of fruit with a good thick syrup, and draw the tub off of the fire and let set two minutes to let the bubbles break out; let the fruit settle. Fill to overflowing and screw each top down as the jar is filled and hold upside down, and if it does not drip any juice give the cover one more turn and stand it on its head and leave till it can be handled bare handed, then turn heads up and never break that first good hot seal. If fruit is very sour put the desired amount of sugar in on top of the fruit before cooking and it will settle down as it cools.

Now, all who try my way I am sure will never fail. I have fine luck with the jar called the Lightning, also the Everlasting and I like the Standard Mason. All are good. I hope this may be of interest to a great many housekeepers.—Mrs. M. E. Seeley, Arroyo Grande.

* * *

BENGAL CHUTNEY.

Editor Household Department: In response to your recent request for pickle recipes, hand you herewith one for Bengal Chutney sauce.—Mrs. Frank Morse, Santa Ana.

Bengal Chutney.—9 ripe tomatoes, 13 large apples, ½ lb. onions (chopped fine), ½ lb. stoned raisins (chopped fine), 1 lb. brown sugar, 3 oz. salt (or to taste), 2 oz. ginger, 1 oz. cayenne pepper, 3 pints vinegar, 2 oz. ground mustard, 1 oz. tumeric.

Stew apples and tomatoes and put through collander. Add all other ingredients except mustard. Let boil a half hour. Add mustard dissolved in a little vinegar. Cool and bottle.

* * *

Carrot Pudding.—Americans do not fully appreciate this vegetable. They feed them to horses to give glossy coat, and do not realize that their own complexions can be benefited by the use of the same vegetable. Here is a delicious pudding: Boil and mash enough young carrots to make a half pound of pulp; add to this a large cupful of grated crumbs, four ounces of flour, four of butter, eight of sugar, and the same of dried fruits, currants, raisins and citron. Pour into a buttered mold, and steam two and a half hours. Serve with sauce.

Young Carrots in Lemon Sauce.—Wash small young carrots and cook in salted boiling water and cut in halves lengthwise. Scrape off the thin skin and put in a saucepan with a saltspoon of salt, a rounding tablespoon of butter, a dust of pepper and a rounding tablespoon of sugar. Set the pan on the back part of the range, or in another pan partly filled with boiling water and simmer until the butter is absorbed; then pour over a tablespoon of lemon juice, stir it in lightly and last sprinkle with a teaspoon of finely chopped parsley and serve at once.

* * *

Lentil Croquettes.—Boil half a pint of split lentils that have been soaked over night until tender and run through a puree seive. Cook a sliced onion in butter until yellow, add a chopped tomato and salt and pepper to season. Mix these ingredients with the lentils, and let the mixture get cold. When quite firm shape the croquettes, dip in egg and bread crumbs and fry a rich golden color. These are nourishing and sustaining, yet very cheap.

* * *

Tomato.—One can of tomatoes pressed through a colander, seasoned with salt and pepper and cooked well for ten minutes. In another saucepan heat to boiling point one quart of fresh milk, to which add either one large square cracker rolled fine or one even tablespoonful of flour rubbed into one tablespoonful of butter. When the milk is slightly thickened add it to the tomatoes and serve at once. It is likely to curdle if it stands too long, or if the milk is not perfectly sweet.

* * *

Corn.—One can of corn rubbed through the colander and one quart of hot milk added, with a piece of butter, pepper and salt, makes also a very nice quick soup.

HOMELY HINTS.

A Chicago woman who manages a famous restaurant in that city originated an asparagus patty which is greatly relished by her patrons. The patty is the usual case of puff paste, only it is made long instead of round, and just the shape and size to hold short stalks of asparagus. A delicious Hollandaise sauce is poured over the patty before serving.

Cheese may be kept from being moldy by wrapping it in a cloth dipped in vinegar and wrung nearly dry. Cover the cloth with a wrapper of paper and keep in a cool place.

It is not generally known that eggs covered with boiling water and allowed to stand five minutes are more nourishing and more easily digested than eggs placed in boiling water and allowed to boil furiously for three and a half minutes.

A few drops of turpentine sprinkled where cockroaches congregate will exterminate them at once, it will also drive red and black ants away.

Iron white clothes on the right side, but calicoes, ginghams, etc., on the wrong side, to produce the lusterless effect seen in the new material before it has been laundered.

When washing dishes which have held milk, rinse them with cold water before placing them in hot water.

Broiled fish, like beefsteak, should not be salted until nearly done; the salt hardens the fiber and draws out the juices.

Doors that will not open easily and drawers that stick may be put in good condition by rubbing the offending edges with stove blacking or even a soft lead pencil.

Brass, if much discolored can be cleaned with oxalic acid. Polishing of brasses may be avoided, if, when they are in fine condition they are varnished with a colorless shellac kept in any paint store.

A simple polish for furniture can be made of one part turpentine and three parts linseed oil. Apply with plenty of "elbow grease." If the children see you use it, they will want to "do it too." Let them try on their own little rockers. It will have a double effect—beside the polish a desire to take care of things.

When a broom has been used for heavy sweeping it keeps longer if it is dipped in hot water, shaken out well and allowed to hang up till dry.

A pair if old kind gloves, large size, are good to put on when you sweep or whip rugs or trim vines.

ENCOURAGING.

"But, Mr. Rounder, I never gave you the slighest encouragement!"

"You didn't, eh?"

"I certainly did not."

"Didn't you tell me you wouldn't marry the best man on earth?"—Houston Post.

ABOUT ANTS

When Ants begin to run over your cupboard and table, get a bottle of K. A. P. The first good application fixes them. Sent prepaid, by express, only, 40 cents.

KELLOGG'S ANT PASTE CO.

1010 E. NINTH ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

THE SMILE

THAT WONT COME OFF

Is always worn by the THRIFTY HOUSEWIFE who uses a

WHITE LILY WASHING MACHINE

Send us the name of your Hardware Dealer and get a WHITE LILY on 30 days trial—FREE

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

When writing advertisers mention Cultivator

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES

Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

CHRONIC INDIGESTION.

Editor Cultivator: Beg to state the valuable mare I asked advice about some three weeks ago has died. I had veterinary working with her for some time and he was giving similar medicines to those advised by the Cultivator veterinary. Now, we dissected her; some organs slightly affected with the long illness, but the trouble was chronic trouble of the large intestines. They were some bloody and looked to me like action of glass, and the mare literally starved herself to death. Can you tell me probable cause of this? I only owned her seven weeks. Do you think it might be glass in the barley?—J. G. Harmon, Santa Ana.

If glass had killed her you would have found some of it in the stomach. I think it was chronic indigestion.

DRY TEAT.

Editor Cultivator: I have a good six year old Jersey cow that I got with the ranch when I bought it. She was giving milk when I got her out of three teats, and the other has been dry. She will be fresh in about two weeks, and her udder enlarging some, and I milk a little on ground once each day, as she don't seem to go clean dry. I notice the fourth teat (the left front one) will let a few drops of milk through still. I want to know if there is danger of milk being in that quarter of her udder that has the dry teat so that I cannot get the milk out, and cause her udder to spoil? If milk cakes in it and I cannot get it out, what shall I do with it? Is there any way to bring the spoiled teat to its proper functions? If so how? Please advise in first Cultivator and greatly oblige.—J. G. Harmon, Santa Ana.

The teat will very probably remain dry and cause no further trouble. If milk should come in that quarter you may draw it off with milk tube. If it don't become inflamed let it strictly alone.

SITFAST.

Editor Cultivator: I have a mare six years old in good condition. Seems to feel all right, but she has something on her neck. There seems to be a black scab formed on top of her neck; it is thick and heavy. Puss forms of a very bad odor. I have been using carbolic acid on it and it has eaten down almost an inch, and seems to be spreading up her neck. What ails her and what is the remedy?—J. H. R., Imperial.

This is called a sitfast. It will be necessary to dissect out the dried chore or scab, then cleanse the parts and apply the following lotion: Sulp. zinc, 2 oz., sugar lead, 2 oz., water, one quart. Shake and apply three times a day. Dust on compound alum powder after using liquid.

SORE EYES.

Editor Cultivator: We have several cattle that are so blind with what we suppose is the pinkeye that they fall off a bluff or into a ditch and are liable to be killed at any time. How shall we doctor them?—P. T. Buell, Ballard.

You don't describe the symptoms so I can define the disease. Use the following, inserting about the size of pea in eye once or twice a day. Blue ointment, one-half dram, lanoline, two drams, vaseline, two drams. Mix.

Los Angeles Markets.

Los Angeles, Sept. 7, 1905.

Butter.

No change in butter quotations since last week. Very heavy holdings of storage may force a sacrifice in this line.

B. of T. Creamery 57½
Valley Creamery, fancy ..... 55@57½
Coast Creamery 44
Fancy Dairy ..... 45½@47½
Cooking, per lb ..... 18@20

Cheese.

Cal. 3-lb. hand 14¼
Cal. Young America 15¼
California Anchor 14¼
Northern ..... 12½@13
Eastern 16
Domestic Swiss 16½
Imported do 27½

Eggs.

Eggs are firm, with advance of a cent on Eastern storage.

Eggs, fresh ranch 27
Eastern and Storage ..... 23@24
Seconds 20

Poultry.

Poultry is scarce and prices firm at the advance quoted below:

Fryers, 2½ lbs ..... 14@15
Broilers, under 2 lbs, per lb ..... 14@15
Young Roosters, per lb ..... 14@15
Hens, per lb ..... 13@14
Ducks, per lb 10
Turkeys, per lb ..... 16@18
Geese 11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt 6.00
Prime Steers, cwt 4.00
Cows, cwt 3.00
Calves, cwt 4.75
Sheep, ewes, per head 3.50
Lambs, do 3.00
Wethers, per head 4.00

Potatoes.

Potatoes are firm at prices quoted. Sweets show a trifle lower quotations:

Northern, per ctl ..... 1.00@1.05
Locals, per ctl ..... 75@90
Sweets, white, per cwt $1.50
Sweets, yellow ..... $1.50@1.75

Vegetables.

Only slight changes are noted in vegetables. Tomatoes are very plentiful and canteloupes are lower.

Onions, yellow, per cental ..... 75@1.00
Onions, Silver Skins, sks ..... 50@75
Beets, per 100 lbs 75
Cabbage, per sack 50
Parsnips, per sack ..... 60@65
Bell Peppers ..... 2@3
Cucumbers, per box ..... 35@50
String Beans ..... 1½@2
Wax Beans ..... 2@2½
Green onions, doz bunches ..... 20@30
Carrots, doz. bunches ..... 25@30
Turnips, doz. bunches ..... 25@35
Garlic 20
Celery, dozen ..... 30@40
Peas, per lb ..... 3¼@4
Rhubarb, per lb 04
Egg Plant 4
Chili Peppers, green ..... 1½@2
Chili Peppers, dry 1t
Tomatoes, local ..... 25@50
Asparagus ..... 8½@10
Parsley, per doz bunches ..... 30@40
Summer Squash, bx 20 lbs ..... 15@40
Green Corn, per sack ..... 50@75
Lima Beans 2½

Citrus Fruits.

Valencias ..... $2.00@3.00
Lemons, standard ..... 2.00@2.50
Lemons, fancy ..... 5.00@6.00
Grapefruit ..... 1.00@1.50
Grapefruit, seedless 2.00

Fresh Fruits.

The first guavas of the season are now on the market from Burnett. Tokay and Cornichon grapes from Gardena are also for sale.

Apples, 4-tier Bellefleur $1.25
Apples, 4½-tier Bellefleur $1.00
Apples, 4½-tier Granvenstein 75c@1.00
Apples, 4½-tier Rhode Is. Grn 75@1.00
Strawberries ..... 4@7
Blackberries ..... 6@7
Logan Berries ..... 5@6
Peaches, per box ..... 75c@$1.00
Plums ..... 75c@$1.00
Nectarines ..... 75c@$1.00
Figs, per box ..... 25@50
Black Figs ..... 50@75
Grapes, Thompson's Seedless ..... 50@75
Muscats ..... 65@90
Tokays ..... $1.25@1.50
Cornichons $1.50
Concord, lb ..... 4@5
Pears, Winter Nellis, bx 1.00
Muskmelons, large crates ..... 75c@$1.25
Watermelons, doz ..... 35@1.50
Guavas, per lb 6c

Beans, Dried.

Limas 4.50
Pinks, fancy ..... 3.65@3.75
Pinks, rain damaged ..... 2.50@3.00
Lady Washington ..... 2.75@2.85
Small Whites ..... 3.15@3.35
Black Eyes ..... 2.50@2.75

Nuts.

Almonds, paper shell ..... 18@20
Almonds, soft shell ..... 18@20
Peanuts, California ..... 5@6
Peanuts, Eastern ..... 7½@9
Walnuts, No. 1 softshells ..... 14@15
Walnuts, hardshells ..... 10@12

Honey

Honey, comb, frames ..... 10@15
White strained, per lb ..... 5@5½
Amber ..... 4@5
Beeswax ..... 23@25

Hay.

Barley, new ..... 8@12
Alfalfa, local new ..... $10@11.50
Alfalfa, no thorn ..... 10@11.50
Wheat, new ..... 10.00@11.00
Tame Oat, new ..... $11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ..... 1.50@1.55
Barley ..... $1.00@1.02½
Corn ..... 1.35@1.40

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran $1.30
Feed Corn Meal $1.55
Middlings 1.40
Wheat ..... $1.65@1.70
Cracked Corn $1.50
Corn $1.45
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

San Francisco, Sept. 7th, 1905.

Dairy.

Butter quotations remain the same as last week, the principal business being centered on storage butter. The market is easy at prices quoted.

BUTTER—Per lb:

Creamery, fancy ..... 26 @27
Creamery, good to choice ..... 24 @25
Dairy, choice ..... 21 @23
Store ..... 17 @18

CHEESE—Per lb:

Cal. Creamery, mild new ..... 12½@14
Do, choice ..... 9½@11
Young America ..... 12 @13
Eastern, New York Cream Cheddars and flats, new ..... 14 @15

Eggs.

Offerings of fancy ranch have been moderate, prices a point lower than last week. Storage goods continue in sharp request and with eastern and local stocks found a ready sale at quotations which are a little higher than last week.

EGGS—Per doz:

Ranch, selected large ..... 31 @32
Ranch, good to fancy ..... 28 @30
Store ..... Nominal
California storage ..... 25 @27
Eastern, extra ..... 25 @26
Eastern, firsts ..... 22 @24
Eastern, seconds ..... 20 @21

Poultry.

While quotations remain the same as last week, yet the poultry market is firmer, large hens and young roosters sharing the principal interest.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $5.50@7; Fryers, $3.50@4; Broilers, $2@3; Hens small, $4@5; large, $5.50@6.50; Live Turkeys, per lb., 19@22c; Spring Turkeys, 23@25c; Ducks, old, $4@4.50; young, $4@6; Geese, per pair, $1.75@2; Goslings, $2; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@$1.75.

Fresh Fruits.

Apples, per box, fancy, 85c@$1.15, common to choice, 40@75c; Crabapples, per small box, 60@75c; large, $1.40@1.75.

Figs—Per box, Black, 50@85c, as to size of package; White, 50@75c.

Pears—Per box, Bartlett, 75c@$1.50; bulk, per ton, nominal; other varieties, per box, 50c@$1.

Peaches—Per box, Mountain, 50@85c; carriers, 40@80c; open boxes, 60c@$1.50; bulk, per ton, $30@50.

Plums and Prunes.—Per small box or crate, 40c@$1, as to variety. open boxes, 65c@$1.25.

Quinces—Per box, 50@65c.

Table Grapes—Per box or crate, Seedless, 40@60c; Sweetwater, 40@50c; Muscats, 50@75c; Blacks, 40@65c; Tokays, 50@85c; Isabella, 65@85c: open boxes, 50c@$1.25, as to variety.

Wine Grapes—Per ton, Zinfandel, $18@23.

MELONS—Cantaloupes—Per crate, 75c@$1.25; Watermelons, per doz, $1@3; Nutmeg melons, 25@60c.

BERRIES—Blackberries—Per chest, $2@3.50.

Raspberries—Per chest, $6@9.

Strawberries—Per chest, Longworths. $7@9; large varieties, $4.50@6; Santa Clara, $8@10.

Huckleberries—Per lb., 5@7c.

Vegetables.

VEGETABLES—Tomatoes, per box, 35c@$1; Green Peppers, per box, Chile,

25@40c; do, Bell, 25@50c; Okra, per box, 35@50c; Beans, per lb, Green, 2@2½c; do, Wax, 2@2½c; Lima, 3½c @4½c; Garden Peas, per lb., 3@4c; Cucumbers, per box, 25@40c; Summer Squash, per box, 30@40c; Egg Plant, per box, 50@65c; Garlic, per lb., 5@ 5½c; Green Corn, per sack, 50c@ $1.25; per crate, $1@1.25.

POTATOES—Per ctl.: River Burbanks, 50@70c; Salinas Burbanks, 90c @$1.15; Early Rose, nominal; Garnet Chile, 40@50c; Sweet Potatoes, $1.25 @$2.25.

ONIONS.—Per sack, Yellow, 65c@ 80c.

Dried Fruits.

The high prices prevailing for dried fruits have checked the demand to some extent but dealers are holding firm and the general market maintains strong tone at firmly held rates. Prunes are strong with offerings scarce.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@ 8c; choice, 7¼@7½c; standard, 6½@ 6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c, Moorpark, fancy, 12c; choice, 8½@ 10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

Honey and Beeswax.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@ 6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 28@29c.

Hops.

The price of desirable old crop is nominal at 16@19c per lb., according to quality; new, 1905 crop, 14@15c.

Beans and Seeds.

BEANS—Prices per ctl. for sound selections; Large White, $2.75@2.90; small do, $3.50@3.75; Pea, $3.25; Limas, $5.50@5.75; Red, $6.50@8; Pink, fancy, $3.65@3.90; recleaned, ordinary to choice, $2@2.50; Bayos, $4@4.50; Blackeyes, $3.75@4.25; Red Kidneys, $4@4.50. Rain damaged lots of all descriptions offering from 50c@$2 a ctl. below foregoing figures, according to condition.

Live Stock.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4@4½c, gross weight; medium, 3½@4c; heavy 3½c, gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@3¾c, gross weight; Ewes, No. 1, 3@3¼c, gross weight.

LAMBS—Sucklings, $2.50@2.75 per head, or 4¼@4½c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs, 5¾c; 130 to 275 lbs., 6c; 275 to 350 lbs., 5@ 5½c; rough heavy, 4¼@4½c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $7.50@13.50; Wheat and Oat, $7@12.50; Oat, $6@ 11; Barley, $6@9; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6.

New Crop—Wheat, $9@13.50; Oat, $7@11; Wheat and Oat, $7@12; Alfalfa, $6@9.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@ 24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $22.50@23.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $21.50 @22.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@28.50.

Flour and Cereals.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70 @4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@ 1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice, No. 1 Feed, $1@ 1.05; some fancy up to $1.06¼; off grades, 97½@98¾c; Shipping and Brewing, $1.05@1.10; Chevalier, $1.10 @1.25.

OATS—Good to choice White, nominal; Red, $1.20@1.40 for new crop; Black, for seed, $1.40.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small do, $1.55@1.62½; White, $1.37½ @1.42½; Eastern, Yellow, $1.40@ 1.42½; White, $1.40@1.42½; mixed, $1.40.

RYE—Good to choice, per ctl., nominal; new, $1.47½@1.50.

CITRUS MARKETS

In the citrus market very little is to be said. But few cars are going out of California. The fruit that is arriving at the auction points in the East in good shape is bringing good prices, although not quite as large as last week. The market at New York has been partially spoilt for oranges on account of the fruit being in bad shape.

Lemons still command fabulous prices, owing to the great scarcity. Practically none of this fruit is being received from Europe and only from ten to fifteen cars a day are going out of California. This supply for the United States comes nowhere near meeting the demand and everything is being taken as fast as offered.

A dispatch in the Los Angeles Times of last Sunday, from New York, in reviewing the lemon situation, says that "not for ten years has the supply been so light as at this season of the year. There are noly about ten thousand boxes in sight. Those will not last very long when the demand is as strong as it is now. One buyer would probably be able to place every lemon of the ten thousand boxes among his customers.

"The situation in the market is shown by the following figures, which is the closing price from store: Extra choice, 360s, $7.00; fancy 360s, $7.50; extra fancy 360s, $7.75; extra choice 300, $7.00; fancy 300s, $7.50; extra fancy 300s, $7.75 to $8.00. Such prices for ordinary lemons are unheard of, and indicate the conditions which exist here at present.

"For a week past the weather has been hot and disagreeable. All the influences which usually go to keep it cool and comfortable at this season of the year have temporarily disappeared and humanity is sweltering under an almost tropic heat, with a murky atmosphere that defies one to breathe almost. Such climatic influences are always productive of immense lemon demands. It is impossible to satisfy the requirements of the consumers. They take all they can get and clamor for more. This has been the experience of dealers during the past few days. They have bid prices up at auction to get anything and have seen their supplies actually vanish under the heavy demand from their customers.

A friend of California said that it was too bad that the lemon growers of the Golden State couldn't ship trainloads here now. There would be practically no limit on the price. Consumers would pay whatever was asked for good lemons.

New York.

At Tuesday's auction sale there was not very much interest in oranges and only two cars of Valencias and one car of lemons were offered. Old Mission Valencias were higher and realized better values. A car of Jamaica oranges also was sold and these realized full value. The quality of the fruit was only ordinary, the oranges being immature. One car of lemons was sold and held as high as usual. Grapefruit was in better demand. A few boxes were sold, realizing very fair prices.

The sales showed Old Mission, fancy, at an average of $6.25 per box. The same brand of choice brought $5.25, average. Iris, fancy, D-M Ex, averaged $3.78 per box. Grapefruit averaged about $2.70 per box. Rialto Girl, fancy, lemons, averaged $6.32 per box.

Boston.

At the auction sale Tuesday lemons were steady and firm, selling within a range of $3.60 to $7.55. Valencia oranges brought from $2 to $5 per box. The market was weak at Boston, one car of oranges being withdrawn.

Chicago.

Not many oranges offered. The market was steady and with future demand. Late Valencias, small sizes, brought from $4.75 to $5; large fruit from $4.25 to $4.50. Lemons are selling well even though prices were high. California fancys, sound, brought from $7.50 to $8.50 per box. Limes, per barrel, brought $10 to $12.

California Dried Fruits.

NEW YORK, Sept. 5.—Evaporated apples are without change as far as spot supplies are concerned, though it is reported that prime fruit for future delivery can be secured a shade under recent views. Common to good, 4½@6; prime, 7@7½; choice, 7½; and fancy, 8. Prunes continue firm, on renewed short crop reports and quotations on spot ranged from 4¼ to 7½. Apricots are said to be a shade easier on the Coast, but the local spot market is unchanged. Choice, 8@8¼; extra choice, 8½@8¾, and fancy, 9½@10. Peaches are still firmly held in primary markets, with fancy fruit quoted 11½ in the local market. Raisins are without further change. Loose Muscatels, 5½@7½; seeded raisins, 5¼@8¼; London layers, $1.00@1.15.

Deciduous Fruits.

Deciduous fruit are being shipped east from Sacramento by the California Fruit Distributors at the rate of about sixty cars per day. The prices are holding up astonishingly well. A car from Medford, Oregon, consisting of Bartlett pears, recently sold for $2084. This is the record-breaking sale for the season for a straight car of Bartletts. Three cars sold at Minneapolis Monday for $1194, $914 and $832, respectively. One car at Minneapolis brought $1165. Three cars at Montreal brought $1866, $1833 and $1275. At Pittsburg, two cars were sold for $1365 and $1446. Last Saturday nine cars sold in New York by the California Fruit Distributors. Following are the prices received: Bartletts, $1.90 to $4, average $2.95; Tokays, $1.10 to $2.80, average $1.90; Malagas, $1.10 to $2.25, average, $1.40; Picquetts, 85c to $1.50, average, $1.05; Kelseys, 70c to $1.80, average, $1.60. Market strong.

A CARLOAD OF RUNABOUTS.

The Moline cars which Wm. Gregory has advertised in the Cultivator for some time have proved winners, and many of them have been sold. Mr. Gregory now announces that he will receive this week a carload of runabouts from the Moline factory. These light machines are exceedingly convenient and relable, well made ones.

Any of our readers who may be interested in the automobile will find much of interest in a short talk with Mr. Gregory.

A sure cure for ant troubles is advertised by the Kellogg Ant Paste Co., in this issue. This paste will positively rid your premises of ants. Send for a box.

IN WOMAN'S BREAST

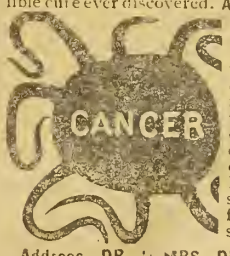
ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.



Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.

Please Send to Some One with Cancer

When writing advertisers mention Cultivator.

Santa Fe

Back East Excursions

ROUND TRIP TICKETS TO

Chicago	$ 72 50
St. Louis	67 50
Memphis	67 50
New Orleans	67 50
Kansas City	60 00
Omaha	60 00
St. Paul	70 00
Minneapolis	70 00
Duluth	72 50
Fort Worth	60 00
New York	108 50
Boston	109 50
Philadelphia	107 50
Baltimore	107 00
Washington D. C.	107.00

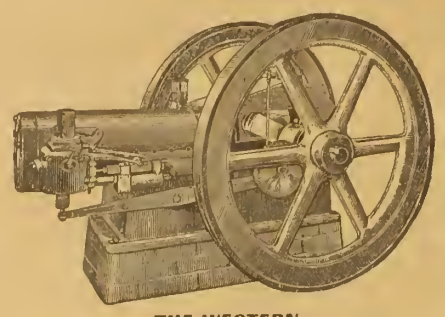
ON SALE
August 15-16-24-25.
September 7 8-9-10-11-16-17.
Good for 90 days.

DENVER AND RETURN, $55.00
ON SALE
August 10-11-12-30-31.
Good for 40 days.

These tickets are all honored on
The California Limited

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST

MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P.

CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.

908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

$800 Webster Gasoline Engine

Good as new, for $600. (Hardly used.)
Fifteen to Eighteen Horse Power.

Gray, Lyon & Co. - Riverside, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

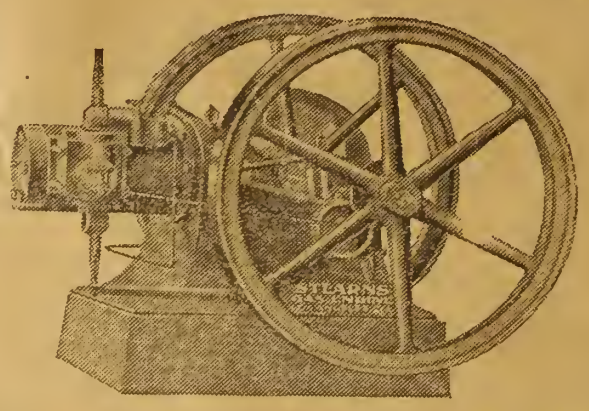
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY
PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth

To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc.,

129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

30.5

California Cultivator

LOS ANGELES SAN FRANCISCO

SEPTEMBER 15, 1905

FROM THE HERD OF GOLD MEDAL WINNERS AT THE STATE FAIR.

Pasture scene on Riverside Ranch, Stockton, California The herd of the Pierce Land and Stock Company has built up a great record for butter fat producers, both in seven day, thirty day and annual tests, and is today sending out some of the best producers in the world. The picture gives an idea of the magnificent pasture which prevails in the rich lands about Stockton.

CIRCULATION EXCEEDING 10,500

Queries and Suggestions

COVER CROP.

Editor Cultivator: Will you kindly inform me through the medium of your valuable paper which pea is the best to grow as a cover crop where it would be subject to slight frost; also quantity to sow per acre, and the name and address of a reliable seedsman from whom one could purchase seed true to name.—Subscriber, Lindsay.

The peas usually termed the Canadian field pea or the Prussian Blue Field pea, either are used for this purpose, for they stand any ordinary condition of winter growth and give a heavy top and heavy root for plowing under in January and February. This seed may be had of firms advertising such goods in the Cultivator.

DODDER.

Editor Cultivator: Will you kindly inform me through the Cultivator the best way to get rid of dodder in alfalfa field? I sowed forty acres last winter and the seed was very foul with dodder.—John Bell, Long Beach.

It is indeed very unfortunate that you did not screen out the seed before the dodder secured this foothold, because it is most perplexing to eradicate it. Especially, unless you have been very careful to cut this season before dodder has been allowed to go to seed again. Light coating of straw, laid over the affected spots and setting on fire will kill it very quickly, so that if care is taken in keeping the seed from ripening the stuff may be eradicated. The burning of the straw, if not too thickly applied, will not kill the alfalfa.

THE WYOMING DAM.

Editor Cultivator: I see in the Cultivator quite a description of the "Huge Wyoming Dam," and I am interested in it. Could you give me further information about it, or give me the address of some one who knows about it. —S. B. Nobles, Toluca.

Address the United States Land Office, Lander, Wyoming, which will give you further information regarding land underneath the Shoshone dam.

SUN DIAL.

Editor Cultivator: As you prove to be a better source of information than my enclycopedia, I turn to you to learn how to make a sun dial, and how to read it, for a shadow cast on the 12 o'clock mark will not be in the same place next month. In setting up the dial is it necessary to get the exact point of compass by the north star.—J. E. Matthews, Santa Ana.

Sun dials are of various forms and built of various substances, all the way from being carved from the solid rock to being grown on the lawn of variegated flowers. One which we have seen an illustration of consists of a partial circle of light flowers with the figures marked in darker flowers, while the shadow was cast by a mammoth cactus, standing like a trunk of a tree in the center. Usually, however, it is a circular surface erected on a column of stone or other material on which is placed a triangular piece or an arm of metal or wood which will cast the shadow. This arm may be placed directly north and south by sighting on the north star on a clear night or by compass, allowing for the variation, or in any way to be sure accuracy is secured.

From Henderson's Picturesque Gardens, we copy the following:

"A triangular shade finger can be used with the upper edge so inclined that the shadow it casts will reach the same points at the same time daily; this is accomplished by having the upper edge, termed the "time-shadow edge," parallel with the earth's axis, the correct inclination being attained by an astronomical calculation suited to the latitude; or, practically correct results may be obtained by experimenting with a temporary shade finger, say a 3-inch strip of board so arranged that the north end can be adjusted until the correct inclination is obtained; the length of the board should reach about three-fourths of the distance across a semi-circular dial of any desired size. This board (or other shade finger) must run north and south—a compass will aid in setting it true; rest the southern end on the dial surface, then elevate the north end according to the latitude, which is the same as that of Savannah, Ga., will be about 4¾ inches to a foot measured along the ground edge of the shade finger; or for Washington, D. C., 6⅛ inches; for New York City, 6½ inches. The shadow cast by this finger at noon will point directly north toward the location for placing the numerals XII. Compare the position of the twelve o'clock shadow with your watch for a few days, and if it returns to the same position, the proper inclination has been obtained; if the shadow has shifted, then raise or lower the north end of the shade finger as circumstances require, until it casts the shadow continuously right. Then the placing of the rest of the numerals on the dial is simply a matter of noting the location of the shadow at corresponding hours by a watch."

GARDENING QUESTIONS.

Editor Cultivator: Is there a variety of table peas known as Marrowfat? If so, can it be grown successfully in the winter months? What is the time to plant? Average price per pound, yield per acre and are they liable to frost easily?

Would potatoes planted in October or November do well or should I wait until February? Would light frost hurt or kill them?—F. Myers, Ventura.

One of the best peas known is the wrinkled Marrowfat, which is the staple with gardeners. The variety called the smooth Marrowfat is of but little value as a table pea. It can be successfully grown during the winter months, though where there is danger of frost it should be planted early enough that the pods may be set before the danger of frost or else that the blossoms will not come until after the danger of frost. There is in this climate no danger of injury to the vines, only to the blossoms. For the earlier peas, they should be planted in July and if not then planted, at the present time or during the month of October will prove desirable as it will give very early peas in the spring. Another crop may be planted during January for early summer peas. If by price per pound you mean for seed, the best and cleanest seed will command say $5 per hundred pounds. If you mean price per pound of the green product, it varies according to the season and supply from four to ten cents, delivered in San Francisco or Los Angeles. That is, assuming that the stock is clean and desirable. We have seen stock sold in Los Angeles at one and a half and two cents which was badly covered with mildew to the extent that they had turned almost perfectly black. To correct this before there is any appearance of the mildew in the field you should be sure and dust with sulphur. The sulphur usually used is the best grade of flower of sulphur, though some use the ordinary crude ground sulphur.

Potatoes planted in October or November would have to be in a perfectly frostless belt in order to succeed. If such a position is secured they would be exceedingly profitable. Unless such a condition is at command, the February planting, which would give quite early spring potatoes, would be best. The potato will stand no frost whatever, though we have known of cases where the top has been injured by the frost soon after coming up, when planters have gone in with plow and covered the frosted tops entirely with dirt when the seed would sprout again, giving a fair crop.

OUT OF POULTRY BUSINESS.

One of California's largest and most successful poultry breeders announces this week that he has entirely closed out his stock and today hasn't a single bird left. Mr. G. I. Lytle, of Los Angeles, has become interested in that more fascinating, and doubtless more profitable, science of mining and is now digging his gold at first hand instead of feeding it through the poultry. Success to him in his new venture.

Mr. Lytle has been in the business of breeding high grade poultry in California for severeal years and for five years, or within a few days of it, has had his stock announcment in the columns of every issue of the California Cultivator. Mr. Lytle informs us that his use of the Cultivator columns has been most profitable and has brought him more returns than any medium used, though he has used some eight or ten others.

Mr. Lytle has been one of those square, upright breeders of thoroughbred stock which it has been a pleasure to deal with, and the vacancy made by his leaving the ranks will be hard to fill.

COMPLETE fertilizers contain the three essential ingredients—POTASH, phosphoric acid, nitrogen—and they must be in the right proportions to suit the different crops.

We have a book, "Plant-Food," which explains these things fully and interestingly. It is free to farmers—let us send it to you.

Address, German Kali Works, 93 Nassau Street, New York.

Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS

411 Market St. *San Francisco, Cal.*

SUCCESS

GASOLINE AND DISTILLATE

ENGINES

STAND EVERY TEST

PRICES—	2½	Horse Power,	$125 00
	4	" "	185.00
	10	" "	368.00
	15	" "	556.00
	20	" "	731.00
	30	" "	1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON

710 N. Main St. - Los Angeles, Cal.

BURBANK'S

Crimson Winter Rhubarb

OUR SPECIALTY

$1.50 per dozen, $7.50 per 100, $50 per 1000

WAGNER'S NURSERY

PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

The Green-Marshall Co.

Manufacturers and Wholesale and Retail Dealers in

Paints, Oils, Varnishes and Painter's Supplies

So. Cali. Agents for Berry Bros. Varnishes

550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena Also Long Beach Factory 15th and Alameda Sts., Los Angeles

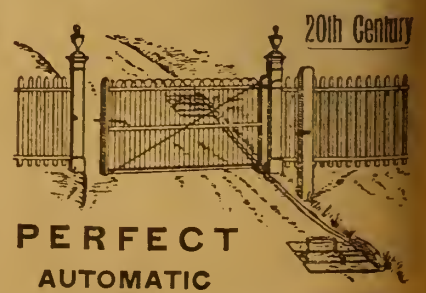
When writing advertisers mention Cultivator

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co 13 Chestnut St., Waterloo, Ia

When writing advertisers mention Cultivator.



20th Century

PERFECT AUTOMATIC GATE. 20 STYLES.

Money Refunded If not satisfactory or as represented. *Works 365 days each year. NO OILING*—ten minutes each year and 10 to 20 cents expense—*no more.*

Enclose 3c stamp for 68 page catalogue.

The Lloyd Co., Inc.

Petaluma, California

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 11 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 15, 1905 Subscription $1 a Year

The California State Fair at Sacramento

Some Excellent County Exhibits. Fine Showing of Dairy and Beef Cattle, Draft Horses and Driving Stock, Sheep and Poultry

The State Fair at Sacramento last week was not so well attended as it should have been, probably fully as well as it will be for years to come. California is too large a State, the distance too far from one end to the other, to make possible a general attendance from all parts of the State. Certainly the city of Sacramento with its present inadequate hotel facilities, could not care for the people if they should come. It might as well be confessed that the management of the State fair are up against a hard proposition.

That they succeeded so well is due to the fact that the central counties of the State have an empire within themselves. In the south there is another imperial country, while northward lies still another.

So, with all due deference to the powers that be, circumstances make this a district fair, a Sacramento fair, if you please.

When this is said it also follows that the State Society, aided by the progressive citizens of the State capital, made a grand start towards a fair that year by year should grow larger and better. This year the civic organizations of Secramento did their fult share toward providing amusement and entertainment to the many thousands of people who have visited the State fair.

The handsomely decorated streets and lavish displays by both business houses and private residences, the electrical illumination at night, the different parades and the culminating glory of Admission Day celebration, made a combination that brought words of praise from every visitor.

The opening day was Saturday, September 2d, but all the exhibits were not in place before the following Monday. At that time the fair was in full swing and a record attendance was noted for the "first day." This was the day set for the Indian parade, the first of the series, one for each day of the week. Over three hundred Indians, gathered from the hop fields of California and brought from Nevada, were in line.

Tuesday night the ribbon parade by the Sacramento Driving Club was most beautiful, the gaily caparisoned horses, decorated carriages and fashionably dressed ladies and gentlemen passing through the brilliantly lighted streets were heartily applauded all along the line.

The automobile parade Wednesday night was an equally brilliant affair and the Shriners of course made a splendid display Friday. Saturday was "Admission Day" and the general parade under the auspices of the Native Sons of the Golden West was the culmination of the combined efforts of the citizens to give to all a pleasing memory of the fair of 1905.

* * *

The new fair grounds are well out in the country, a good half hour's ride on the electric cars, while the Pavilion is located on the State Capitol grounds. It is a splendid building in the wrong place, amply large for the exhibits—which were not there.

Agricultural products, fruits, mineral exhibits, from a State view-point were lamentably lacking. Excepting for the few county exhibits, the less said the better. In the line of machinery, but for a few local displays, and those of the dairy and creamery people, an equally poor showing was made. In one wing was huddled the poultry exhibit (a new building at the fair ground is promised for next year) and while a few fanciers made a brave effort, the sum total was hardly equal to a good county display.

The chief attraction at the pavilion was the county displays, eight in all. San Joaquin county, through the efforts of the Stockton Chamber of Commerce, made her first exhibit at the State fair and it was a display that did credit to the Gateway county of the San Joaquin valley. Fruits in great variety were displayed, grapes of all kinds, manufactured products, grains, cereals, vegetables, while in the center the figure of a high grizzly bear holding an enormous cornucopia, from which poured a stream of fruits, flowers and products of the county. It was the best and most striking design in the pavilion. Sacramento county, of course, had a fine display in various departments. A very attractive display was made by Yuba and Sutter counties. Here were seen the best results from these two counties. Shasta and Placer counties, also made fine exhibits, while Sonora and Napa were well and fully represented.

In the competition for prizes offered to Native Sons for best displays of products and manufactures in the pavilion the followin awards were made:

San Joaquin County, represented by Stockton Parlor, Native Sons, first prize, $500; Shasta county, second prize, $250; Placer county, third prize, $150; Napa county, fourth prize, $100. Yuba and Sutter divided the fifth and sixth prize, which amounted to $25 each.

With these exhibits eliminated the Pavilion display would have been a minus quantity. One can but wonder how grand and magnificent a display could be made should every county in the State, on some future occasion, conclude to make a county exhibit at the State fair. It would surely make a showing well worth the time and trouble. But it is a long cry from Siskiyou to San Diego and but few could travel the weary miles to attend.

In the Pavilion the dairy separator people were on hand. The De Laval Dairy Supply Co., the U. S. Cream Separator and theSharples Tubular Cream Separator Co., all had representatives present explaining the merits of their respective machines. Here also were th Jubilee Incubator and the Bean Spray pump, of San Jose. Of course no fair could go ahead without an exhibit of the Coulson stock and poultry foods—there is but one Coulson.

* * *

The new fair grounds are farther out from town than the old, but the change was wisely made. Plans were carefully considered and the work so far has been excellent. When in the years to come the grounds are ornamented and all the buildings completed it will be as handsome and convenient a fair ground as one could desire. The one line of electric cars now operating is inadequate during a few hours morning and evening, but this will be remedied.

A splendid race track has been completed, a safe and comfortable grand stand, good buildings of ample size, and plenty of stable and shed room for live stock. The directors of the State fair have earned their meed of praise for what they have done. What has been done gives splendid promise for the future.

The exhibition of stock of all kinds was good. Probably the best, all in all, that has ever been shown at the State fair. In dairy stock and beef cattle, draft and driving horses, imported and domestic, one feels a thrill of satisfaction in seeing so much that is best—so little that would class as merely good. Swine, sheep and goats are here in all breeds and owned by men who know what good stock should be.

In cattle the Shorthorn and Holstein lead in numbers, while the Jersey counts up a strong third. From Washington comes two comparative strangers in California—the Devon and Brown Swiss cattle.

In swine the Berkshire and Poland China were the whole thing—save a fine lot of Durocs. A good showing of Percheron horses was made in addition to the imported stock shown by the large firms of Dunham & Fletcher, Landis Bros., and J. Crouch & Son. Clyde Chipman, of Los Angeles, had a fine lot of Percherons on exhibition and E. F. Kleinmeyer, of the same city, had a fine Percheron stallion which attracted attention.

Among the sheep men, Mr. Glide made a showing of Southdown and French Merinos; Eaton & Shaw, Thos. Waite and J. H. Lynch had Southdowns. Bailey & Co. were showing fine Angora goats.

In the racing programme there were many entries and the afternoons were fully occupied. A sporting friend claimed that the races were "the best ever." Certainly the grand stand had the crowd in the afternoons, while the races were in progress. Human nature is about the same everywhere and it is always the rule for the parents to take the child to the circus to see the animals. Our sporting friend led the child to a fenced off lot wherein there was "hay" for sale. The festive "tiger" lurked therein and pools and strange language were much in evidence. No gambling was allowed, of course, but the tiger was a very active animal withal.

* * *

Down among the stock pens where the Pierce Land and Stock Co. made a splendid showing of Holstein Friesians, was found Mr. Pierce, caught in the act of counting up his ribbons. He had eight gold medals, twelve first, twelve seconds (and five reserve champions) and five thirds—every first and second all along the line. This company had thirty-five head of stock at the fair.

G. A. Murphy, of Perkins, Cal., was showing some fine Shorthorns and Berkshire hogs. P. H. Murphy, of the same place, had some very fine Poland Chinas.

The Howard Cattle Co., the Chowchilla Herd, Isaac Bird, manager, the Humboldt Herd, J. H. Glide & Son and H. P. Eakle, Jr., all had fine Shorthorns on exhibition.

Our old friend, Thos. Waite, of Per-

(Continued on Page 254)

Selecting Watermelon Seed

By J. C. Ostergard, Burbank, Cal.

A few years ago the Rattlesnake variety of watermelon was the favorite. A great many other kinds were tried, but none could compete until our present melon made its appearance. Before it all the rest, even the favorite Rattlesnake were made to look as third class goods. This, in fact, they were, not only as to appearance but in flavor and sweetness as well. Besides these qualities, it possesses an extra thin rind, making it all meat except for a thin hard shell.

Its origin is shrouded in mystery. I have heard many stories, but all conflicting. It was at first named the Chili melon, then Chilanian, which again was contracted to Chilian, by which name it is best known at present. There is no doubt but that it is a cross, pure and simple, most likely a cross between the Cuban Queen and a small dark melon which the Spanish population have grown for home use for many years, a few patches of which are yet to be found.

This melon has a pure white seed. The Cuban Queen has a white seed with black eyes. There is also a little citron blood in it, just enough to make it a vigorous grower. When first introduced it was badly mixed with various kinds of watermelons, although it was tolerably uniform in appearance. One would meet with white seed, white with black eyes, brown and even black seeds in the same patch of melons, often two kinds on the same plant. The white, however, predominated and today a Chilian melon having other than white seed is not in favor and are not grown much except by careless growers. Yet it must be said that very sweet melons are to be found among those having colored seeds, but in outward appearance, as well as firmness of flesh, none can match the royal, white-seeded Chilian in her dark green, striped, glossy coat. She today stands out the most perfect creation in the watermelon kingdom.

* * *

Seed Selection.—The best time is from now on, the later the better. Most any melon will cut nicely during July and August. It is only the very best that will bear a good eatable melon when the weather turns cool to cold. I would, however, advise everybody not to save their own seed if they are within a half a mile of a patch of citron. Pumpkins rarely mix with watermelons, even if grown among them. But beware of citron. Even if you have no citron near and your own patch is but of indifferent quality, it will be best to buy your seed from some reliable party, who has the best and whom you can rely upon. A pound of good watermelon seed is as easily worth ten dollars as a pound of indifferent seed is worth ten cents. Having satisfied yourself that you can get satisfactory seed from your own patch, select only such as are perfect globes, as smooth of surface as possible and dark green in color, for it is a fact that in as much as the melon tends to lengthen and has depressions over and around the shell it is deteriorating, or running back, as it is generally termed. See to it that your melon cuts clear and has no hollow places between the flesh, is not mealy, is not stringy, and has a thin rind. The flesh must be firm, with seed close to the rind. The flesh should be a bright, clear red. Beware of the copper red color. If the seed is far from the rind, the melon otherwise being fine, don't use it; such seed will produce next year a thick rind melon.

As to size, most any size will do, provided it is otherwise perfect and has grown on a stock having large melons. Yet it is not advisable to use a melon weighing over tweny-five pounds. A melon weighing more than that is apt to be coarse and not evenly ripened. Besides, very large melons are not profitable to the grower. In the Southern States, where the temperature is high, day and night, very large melons ripen to perfection, but here, where we have warm days with cool nights, the melons don't get heated through when very large. Our very best melons weigh from twelve to twenty-five pounds.

* * *

THE SELECTION OF CANTALOUPE SEED.

This is a very easy matter. Just observe that they are well netted, possess but a small cavity and are otherwise perfect. Place the seed in an ordinary bucket and churn with a wire potato masher until the seed are all free of the stringy matter. Strain and pick the stringy stuff off by hand. Dry in the shade, as sunlight weakens their vitality. Don't save your own seed unless you are far from cucumbers, pumpkins, squash and other varieties of muskmelons.

* * *

TOMATOES.

The unusually cool, moist spring and summer has been highly favorable to fungus growth. As a consequence tomatoes have suffered as never before. Fully seventy-five per cent have blighted. Against this plague has been applied every remedy known as a fungicide. The result has not been attended with even partial success. Indeed the results have been absolutely nil. Fields everywhere have been afflicted, now fields have not escaped. I have had a good chance to observe its peculiarities in a field of forty acres that has been in water and muskmelons for several years. I have replanted the wilted melon vines with tomatoes. Being a mesa just at the base of the mountains, there is a good deal of variety of soil. In spots it is sandy soil underlaid with loam. Fully ninety-five per cent died long ago on the dark loam where the heat is greater than on the white, or partially white sand. There is at present remaining about forty per cent, most of these have grown but little until the recent hot weather, but since then they have grown fast. Heat will kill fungus at a temperature of about one hundred and thirty-two degrees Fahrenheit. On a hot day, with the temperature at ninety degrees in the shade the average mesa soil will be found to have a temperature of about one hundred and thirty-eight degrees, or more than enough to kill the fungus. Accordingly, it is well to wait and not plant fall or winter tomatoes until after a real hot spell and then dust the plant and soil around it for a foot on all sides with sulphur. After the disease is contracted neither heat nor fungicides are of any avail. As the ground is now likely to be free of the pest, I would advise replanting with the winter sorts, Atlantic Prize and Early Richmond being the favorites. But it should be done at once and only in the frostless regions.

* * *

Early Rose potatoes, if planted now, in the frostless belts, will come in as "scrapers" for the Christmas trade, at which time they usually bring three cents a pound.

* * *

Plant Yorkshire Hero peas now only in warm sections.

Plant your last crop of beans now, but only in warm sections.—J. C. Ostergood, Castle Cove, Burbank.

* * *

[A few ideal watermelons grown by Mr. Ostergood may be seen at the Los Angeles Chamber of Commerce.]

Blue Gums

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity

Geo. B. Warner, Santa Ana, Cal.

When writing advertisers mention Cultivator.

Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash

T. W. JACKSON CO., 125 California Street SAN FRANCISCO

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency. Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

We Can Save You More Money

Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building Phones: Home 2367; Sunset Red 2811

Shops and Yards: 860 North Main St. Phones: Home 1088; Sunset Main 1088

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

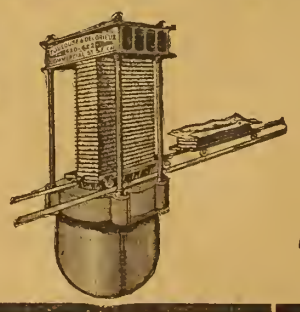
Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.

Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

WINE AND OIL MACHINERY



A SPECIALTY

Presses for All Purposes.
Complete Plants Fitted Out.

TOULOUSE & DELORIEUX

618 Commercial St. San Francisco

Catalogue Upon Application

When writing advertisers mention Cultivator.

Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.

BEES AND ANTS.

Strong colonies usually protect themselves from ants. If quilts are used, discard them and allow the bees free access to all parts of the hive. If black ants, hunt up their nest (which is not far away), make a hole in its center, put in one-half pint bisulphide of carbon, close up hole with wet mud and dampen ground around nest. Be careful to keep the drug away from fire.

Another way to destroy ants is to mix flour with honey, adding arsenic or Paris green, making a paste. Then on two boards of equal size nail a piece of section on each corner of one, spread the paste on it and use the other for a cover, fastening both together so that nothing except ants and like insects can get between. The piece of section is just the thickness to allow ants to enter, but keeps bees out, the ants carry the poisoned food home and feed it to their larva with good results—to the bees. Still another way is to place the hive on four feet set in pie tins filled with coal oil; ants will not cross the oil to reach the hive. It may not be out of the way to repeat that strong colonies are the surest preventives of many of the ills of beekeepers.—W. S. & H.

BEES AND THEIR WAYS.

Bees are very uniform in their actions, they do things after a certain manner as I suppose they have been doing them for ages past. An intimate knowledge of their habits enables the skillful beekeeper to control their actions to suit his purpose. He does not seek to change their instincts, but only to take advantage of them.

I will mention a few of the habits that have been turned to good account in the evolution of modern beekeeping.

It is the rule for bees to build their brood combs of a uniform thickness and a certain distance apart. It was found by measurement that bees, when left to themselves, space their combs one and one-half inches from center to center. Then it was that men, noticing this rule, began to try to devise some means to bring the manipulation of the combs within easier reach. At last Langstroth brought out, or at least, perfected the movable frame, by means of which the combs of a colony could be easily removed from the hive for examination; could be transposed, or exchanged with the combs from another hive. If it had not been customary for the bees to build their combs straight and uniform, men would not have thought of having the combs built in frames.

A normal colony of bees casting a prime swarm uniformly takes its reigning or laying queen with said swarm, and the swarm will alight and hang in a cluster before leaving for their final home.

Taking advantage of this habit, the practiced beekeeper does not go to the trouble to beat tin pans and throw dirt in the air in order to stop such a swarm. He knows they will first cluster on some tree or bush and while thus clustered he will have time to prepare a hive for their reception. If they take flight from the cluster he knows they will leave for parts unknown and it is then that he will resort to any and all means to stop them. My method of stopping run-away swarms is to avoid ever having any.

A normal swarm of bees will uniformly return to the hive from which they came if by any chance the queen is not with them; taking advantage of this fact we clip off a part of one wing from the queens before swarming season begins, then when the swarms issue the queens not being able to fly, are found and caged at the entrance, and held till the swarm begins to return, when they are released and allowed to run in. In the interval that the bees are in the air before discovering the absence of the queen the hive can be taken away and a new one put in its place. To this new hive the bees will return because it is a law with them to return to the old location. Now you begin to see how a knowledge of these things aids us in the practical work of the apiary. If bees begin to build a comb straight they will finish it that way. We therefore, place strips of foundation in the frames or section boxes, it having been demonstrated that the bees will uniformly start their comb on these thin strips of pressed wax.

Every beekeeper knows that bees will pounce on any exposed sweets during a dearth of honey when bees can not find nectar in the flowers, and that they will become very much excited and will be likely to enter other hives than their own for the purpose of robbing and will sometimes become angry and sting stock or passersby. He will therefore carefully avoid exposing any bits of honey or other sweets at such times, and women preparing preserves should do so behind closed or screened doors. If not she may be bothered by having a lot of bees buzzing inside of her kitchen. At a time when there is honey in the flowers, bees do not notice any such exposed sweets.

As a rule bees cast a prime swarm as soon as the first queen cell is sealed, unless prevented by bad weather, therefore the first young queen may be expected to emerge on the eighth day from the first swarm. When the young queen hatches we may look for a second or after swarm. Knowing this law we will look in the hive on the seventh day and destroy all but one queen cell. There will be no swarm in accordance with another well known law that the bees will not leave the hive queenless and no provision for a new queen to be reared. It will be seen that beekeeping consists in conforming your methods to the habits of the bees in such a way as to have them do your will by not willing that they shall do anything contrary to their established customs.—Wisconsin Agriculturist.

Sheep greatly improve land when too many are not kept on an acre.

PROVIDE PLENTY OF ROOM.

When honey is coming in freely bees ought to have plenty of room to store it. They need looking after every few days, and if they have a case of sections on don't wait until they are all full before giving additional room. Farmer beekeepers often neglect to provide sufficient supers and sections to obtain the best results from their bees. That is one reason why the bees swarm so much.

My own practice is as follows: I try to get the supers on before the bees make preparations for swarming. When work is nicely begun in the sections—say three-fourths finished—we lift the super and slip an empty one under it—if honey is coming in. Of course, this practice is not for the close of the season, but for the honey harvest, no matter from what source it is derived. That provides for the finishing touches to be put on the comb always at the top, as far removed as possible from the brood combs and the soiling which is liable to be seen on cappings if close to the brood nest; and the top of the hive being the warmest spot it is the ideal place to ripen the honey and improve its quality. Some people take the surplus off as fast as it is finished. This is all right if one needs to use it, but I have never found a place quite so nice in which to keep honey in all its richness during the summer, as in the hive. If tiered up as I suggest, the honey will not be stained by the bees traveling over it to its injury, and its quality will be greatly improved.

A good colony ought to store more than one super full during the season. In my own yard it is not uncommon to see them piled four high. If one waits until the first super is completely filled and capped before supplying additional room, the brood chamber is likely to be filled also with honey instead of brood, and it is plenty of brood that we must have if we are to get large crops of honey. Give them plenty of room.—N. W. Agriculturist.

INSTANTANEOUS LIGHT.

You can have your bee smoker lit in two seconds ready for use by buying half a pound of saltpeter and dissolving it in three pints of water. Then get any old cotton rags and cut in thin strips not more than one inch wide, any length. When the saltpeter has all dissolved put in your rags and let them stay in till they are well soaked. Then hang up to dry. Be careful not to dry by the stove or they may cause a fire. When you have them thoroughly dry cut up into lengths of about three inches. Keep in a tin pail with a good tight lid. One of these strips is enough to start your smoker. It is instantaneous, never blows out in the strongest wind and is always ready to use. You don't have to run in the house to the kitchen stove and bother the women folks.

Mrs. Hi Flyre—They say that Mrs All De Mustard's beautiful house is simply crowded with Murillos and Velasquezes. Mrs. Justin De Bunch—Mercy! Has she tried pouring gasolene in the cracks and fumigating with formaldeheyde?—Cleveland Leader.

Edges That Last

Probably you have bought edged tools made of steel that was crumbly, or too soft to hold an edge, or so hard as to be brittle. You may have bought them for good tools, too. There is, however, a sure way to get tools with edges that last. It is simply to ask for the Keen Kutter Brand when buying. Keen Kutter Tools have been standard of America for 36 years, and are in every case the best that brains, money and skill can produce. They are made of the finest grades of steel and by the most expert tool makers. As a complete line of tools is sold under this brand, in buying any kind of tool all you need remember is the name

KEEN KUTTER

The draw knife shown here is an example of the excellence of Keen Kutter Tools. It has a nicety of balance and "hang," which has never been successfully imitated, and it is made of the best steel ever put into a draw knife. In all the years that we have sold this tool we have never heard of one defective in any way.

Yet the Keen Kutter Draw Knife is no better than all other Keen Kutter Tools.

The Keen Kutter Line was awarded the Grand Prize at the St. Louis Fair, being the only complete line of tools ever to receive a reward at a great exposition.

Following are some of the various kinds of Keen Kutter Tools: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Eye Hoes, Trowels, Pruning Shears, Tinners' Snips, Scissors, Shears, Hair Clippers, Horse Shears, Razors, etc., and Knives of all kinds.

If your dealer does not keep Keen Kutter Tools, write us and learn where to get them.

Every Keen Kutter Tool is sold under this Mark and Motto:

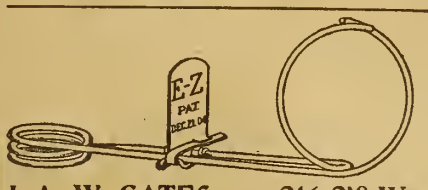
"The Recollection of Quality Remains Long After the Price is Forgotten."

Trade Mark Registered.

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK

SIMMONS HARDWARE CO., St. Louis, U. S. A., 298 Broadway, New York.

Send for Tool Booklet.



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Outlook for Citrus Industry

A Pilgrimage by a Cultivator Writer Finds a Hopeful and Healthy Feeling Amongst the Orange and Lemon Growers

The closing of the present citrus season is so much different than it was feared it would be that there is a general feeling of satisfaction in nearly every citrus growing section of California. Of course, even earlier, the citrus growers of the Tulare section, which markets nearly all its fruit for the holiday trade, felt that they were well out of the woods in that the prices of the holiday season, which are almost invariably satisfactory, had put them out of reach of any slump which might come during the heavier shipping season, when the Southern California production seeks its market. Out of the total of over thirty thousand carloads of citrus fruit, the Northern California growers have but about fifteen or sixteen hundred cars, and, owing to the warmer summer season, their fruit is almost invariably well colored and well sweetened for the holiday trade, so that the trees are entirely clear before the first of January. The great bulk of Southern California shipments does not begin until well into January and that season is no more fully on than the orchards in some sections begin to show a tendency to drop some of the fruit and, possibly, as in the case of this year, a percentage of "puffs" appear. This has a depressing effect upon the growers and creates a desire to move just as much of their fruit as it is possible to induce the buyer or the packing house management to take. If the locality where such fruit is grown was comparatively limited, there would be no serious effect upon the market, but owing to the great quantity, there is some danger of deteriorating, or which the growers feel may deteriorate, the pressure becomes almost unbearable and the various shippers sometimes forward more than their best judgment dictates and than the market will absorb.

We would not, however, carry the idea that the low prices of last midwinter were entirely due to this pressure and overshipment. For eastern weather conditions doubtless had more to do with the low price than any other one feature. With the thermometer registering way below zero, it became not only impossible to display fruit upon stands and in peddlers' carts, but even absolutely unsafe to open cars at auction houses. Such a condition prevailed over a large territory of the East for weeks at a time and it was a condition which could not be anticipated, so that the large number of cars of fruit in transit only continued to pile up and remain in storage until the weather moderated. Besides that, another condition which effected seriously the selling price, was the poor keeping quality. Possibly owing to the warm, moist season, the flow of sap began much earlier than usual and that is a condition of tree well known to endanger the carrying quality of oranges. In any case, it is certain that at the breaking up of the cold eastern weather there were not only a large number of cars in storage showing some decay from long holding, and, in addition, vast numbers of other cars arriving showing a large percentage of decay in transit. Therefore, the prices received for the growers during the months of January and February may be said to be exceedingly unsatisfactory.

This unsatisfactory price is especially true in cases where the shipper pooled or bunched nearly all his fruit in those months. The larger shippers, or the members of co-operative organizations which pooled fruits during the entire season, will receive a fair average. We think it is safe to say that all citrus fruits shipped out of California during the season will average well up towards $500 per car. At least, that is the statement which the Exchange makes, that its entire shipments will make that average. Of course, this included Valencias and lemons, which have had an exceedingly good price during the entire summer. There are, however, some shippers who claim for navels alone, in excess of $450 to $480 per car for the season.

Those prices per car are, of course, f. o. b., so that the grower will not net quite those prices. The cost of packing and marketing will vary from say 27 cents to 40 cents per box.

Valencias and lemons have commanded the highest prices during this summer which they have ever reached, that is, the highest general average. Take lemons for instance. Mr. Dreher, of Pomona, recently informed the Cultivator, that the San Dimas Lemon Union had aggregated over $60,000. for sixty consecutive cars of lemons. Many individual cars have reached to the maximum of $1600 and $1700, but for an aggregate on that number of cars we do not think that amount for sixty consecutive cars from one house was ever received before.

Valencias have aggregated $2200 and $2300 a car f. o. b. eastern points, which, for oranges, is simply immense, and while all Valencias have not reached such prices, the average has been very high, say $2 to $4 per box to the grower.

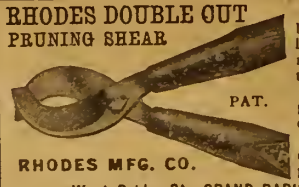
These points are mentioned to call attention of the growers to the fact that this season has not been so disastrous as is often imagined. During the earlier season when for a time the prices were disastrously low, which gave such a depressed feeling that by its very inertia remains with the mass of the growers until this day. But that that feeling is not justified by the facts we believe a careful survey of the situation will convince anyone.

To that end the Cultivator has devoted considerable time visiting nearly every citrus growing section south of Tehachapi. While we find it impossible to get exact figures as to season averages, yet many interesting points have been learned which will be the basis of an article or two which we trust will have much of interest to citrus growers.

A consignment of about fifty thousand young rainbow trout arrived at Redding last Saturday from the Sisson hatchery for distribution. in the streams of that county.

The Santa Fe road is running a special express car for the grape trade from the El Cajon valley.

RHODES DOUBLE CUT PRUNING SHEAR



Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.

RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

When writing advertisers mention Cultivator.

WIRE FENCE
GOODS CLOTH NETTING WORK BARB WIRE
HOG COW HORSE SHEEP
WEST COAST WIRE & IRON WORKS 19 FREMONT ST. SAN FRANCISCO

When writing advertisers mention Cultivator.

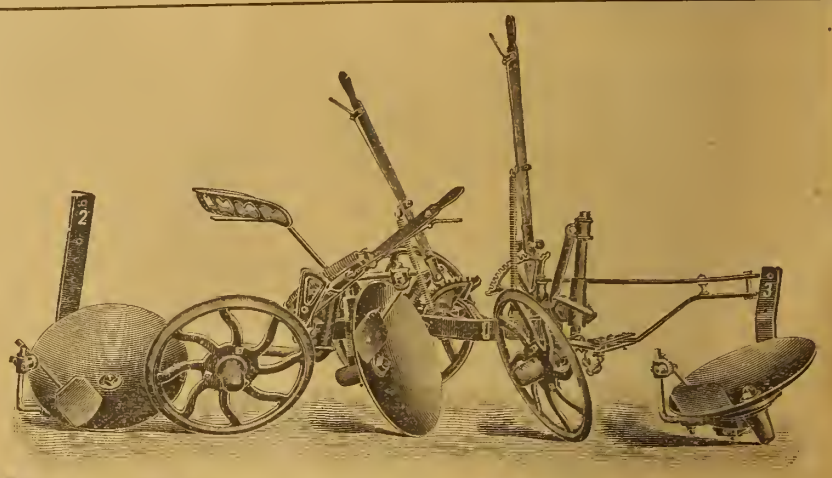
THE BEST EVER

The California Limited Log-Book:

The California Limited is the finest train in the world, and as for service, it can't be beat.

JOHN McDYER,
Chicago, Ill.

SANTA FE IS THE WAY



The Emerson Disc Plow

Has distinctive features over every other make. The levers are controlled from the seat. Turns a square corner to right or left. Width of cut controlled by operator or team.

Slant of discs adjust the plow for either sandy or gumbo soil. **It has many other features** which make it easily the leader of its class. Instantaneous acting lever. Each plow convertible from 1 to 2 or 3 discs or reduced from 2 or 3 to 1 by a very simple manipulation.

The bearings are absolutely dust proof and oil tight. The discs run on adjustable and oil retaining ball bearings.

Rear lever provides ample depth of furrow in opening land and when on the road.

It is compact, strong, durable and **light draft.** By using a disc plow in the early fall the farmer can get a distinct advantage from the early rains. **The Emerson Disc Plow** is a leader in its class and prospective purchasers should investigate its merits.

Read these testimonials and then judge for yourself:

El Monte, June 8, 1905.
I have used your Emerson Disc Plow in salt grass as well as in all kinds of soil and under all conditions, and I have found it entirely satisfactory in every respect.—P. C. CARLILE.

Los Angeles, June 8, 1905.
Your Emerson Disc Plow has given entire satisfaction in dry and wet plowing. It has no equal; also is the best plow I ever used on weedy lands.
E. L. WALDRON.

June 8, 1905.
I have an Emerson Disc Plow, 1904, I bought to plow black adobe hills and found her the best I have ever seen. Some of my adobe is like iron when it is dry and she did good work. I could plow eight inches deep with a three gang, five horses.
DAN McCONAUGHY.

Fullerton, Cal, June 8, 1905.
The Emerson Disc Plow we have used on our farm at La Habra, Cal., for one season, 1905, and find that it is superior to any plow we have ever used; that it will side hill ground where no other disc plow will work and will not upset; that for high weeds it has no equal that we have ever seen work, and will turn the weeds completely under the soil; and for changing into different classes from one to two or more discs, it is ahead of any plow made. A. C. SWEET.

Pasadena Sewer Farm,
June 6, 1905.
I hereby certify that the above picture of the Emerson Disc Plow was taken on the Pasadena Sewer Farm, and that it shows the true condition of the crop of weeds that I plowed under. I used 4 mules on a 2-gang plow and plowed 7 inches deep. I further state that I have given the plow a thorough test in all kinds and conditions of soil and that it has given thorough satisfaction. L. O. McGREW, Supt. Pasadena Sewer Farm.

We sell these very satisfactory plows. You make no mistake in purchasing of us. Our catalogue gives a full description of the **Emerson Disc Plow**, together with many other farm implements and utilities. **It is sent upon request.**

Newell Mathews Co. 200-202 NORTH LOS ANGELES STREET LOS ANGELES, CAL.

Selling Agents—Bird & Beebe, Anaheim; Whittier Implement Co., Whittier; Twomey & Smith, Pomona; Riverside Implement Co., Riverside; H. Gregory, Redlands

CITRUS FRUITS

By C. A. Day. Pasadena

PARASITE FOR PURPLE SCALE.

In the Cultivator of September 1st Mr. John Isaac writes that "Compere, during one of his visits to China discovered an effective parasite for the purple scale, and an effort made at that time to introduce it into California proved a failure, but that a new effort is now being made by sending California orange trees infected with purple scale to China and when the scale is parasitized the trees with their scale will be forwarded to San Francisco where every preparation will be made to receive and breed them for gneral distribution." I believe the above statement to be correct and while no mention is made of who has arranged and is carrying out this later plan of sending infested trees to China, it will generally be understood by the readers of the Cultivator that it is the work of the State Horticultural Commission. It is another case of one of the county horticultural commissions co-operating with the State commission in the work of insect control, and credit should be given to the Horticultural Commission of Los Angeles county for conceiving the plan of placing potted orange trees in close proximity to orchard trees infected with purple scale, and when thoroughly infested these trees, four in number, were forwarded to the State Commission for transportation to China with the agreement between the county and State commissions that two of the trees on their return should be turned over to the Los Angeles Commission as their share in the venture.

The Los Angeles Commission was prompted to take action in this matter because of the expensive and almost hopeless task of fighting the purple scale in a certain district of the county.

* * *

RED SPIDER.

The red spider or mite which attacks citrus trees and their fruit has proven itself worthy of careful attention. These mites are found located on the leaves, wood and fruit. They feed by sucking, pumping out the liquid parts of living cells and the chlorophyll or green bodies suspended in them. The leaves turn white and are finally killed and fall to the ground. The bare wood of the twigs thus denuded of leaves die, and the effect on the fruit is to cause it to drop.

The spiders are often found in large numbers on the fruit of the orange and lemon, and we have good reason to believe that they impare the keeping qualities of the fruit. Some years ago a severe attack of spiders in the month of March on the orange trees of the Nelson Bailey orchard at Alhambra caused the dropping of 2000 boxes of oranges. Tests were made of this dropped fruit as to its keeping qualities, and it was found that the fruit began to decay in a very few days.

* * *

When the Mites are Most Injurious.—The mites work, and breed to some extent, at all times of the year, whenever wet weather does not interfere. We find them at work during the warm, dry periods of the winter season—and through the spring, summer and fall, but the spring and fall seem to be he times of their greatest activity. The most evident injury is during the months of October and November, when they cause the leaves and fruit to drop. They are spasmodic in their appearance and frequently appear suddenly in great numbers, causing serious injury in a few days' time, and then as suddenly diminish in numbers and continue with but little apparent injury. In many cases the leaves of the trees change in color from green to gray caused by the mites sucking the juice of the leaf and with it the chlorophyll or green coloring matter of the leaf. This interferes with the digestive functions of the tree and while the leaves do not immediately drop, they are of but little use in taking the carbon dioxide from the atmosphere.

* * *

Failure to Apply Remedy in time.—In very many cases the orchardist fails to apply the treatment to the spider in time to prevent injury to the foliage and fruit of the tree. Where the orchardist waits until the tree and fruit show signs of injury and the leaves and fruit begin to drop, the principal damage will have been done before a spraying machine can be procured and the orchard sprayed. A careful watch should be kept of the increase of the spider and whenever there is a large increase of eggs on the leaves and fruit the treatment should be applied at once. By the aid of a magnifying glass the eggs will be found as little blood-red dots on the upper side of the leaf lined up along the central rib of the leaf and will also be found on the wood and the fruit.

* * *

Remedies in Use.—Fumigating has no effect on the mites. Distillate mechanical mixture is very much used as a remedy jointly for both the mites and black scale. Dry sulphur is sometimes applied to the trees when the foliage is damp, but this way is not as thorough or effective as when mixed with water, using a little wheat flour as a paste to fasten the grains of sulphur to the foliage and wood of the tree. As the sulphur does not go into solution, the mixture must be kept stirred so as to keep the sulphur suspended. Power sprayers with agitators are commonly used. The proportion of this mixture as used by some sprayers is 100 gallons of water, 11 pounds of sulphur, 4 pounds of wheat flour first made into a paste, free from lumps, and one pound of lime slacked and strained. The lime is used to neutralize the acid in the sulphur.

The fumes of the sulphur arising from the action of the sun destroys the living spiders and will continue to act until all the eggs are hatched, making clean work. In some cases liquid sulphur is used to spray for red spider. The proportion as given is 10 pounds of caustic soda (98 per cent), 20 pounds of sulphur and 20 gallons of water, forming a stock solution, one gallon of this stock solution to 80 gallons of water. The caustic soda liquefies the sulphur, making a perfect solution.

Personally I have had no experience with this solution, but it is said to be effective. I have seen cases where the fruit was injured or burned, presumably because of a failure to make a perfect solution, or from too great a proportion of the caustic soda.

By some sprayers the liquefied sulphur is preferred as it does not clog the spraying machine as is sometimes the case with the sulphur and paste mixture.

The latter mixture, counting the cost of material, labor of mixing and, sometimes, trouble in clogging of the spraying machine, is the more expensive.

The distillate mechanical mixture is preferred by many growers because of its cheapness and that it is in a measure effective on both the spider and the black scale.

The distillate is not as thorough in its effect on the spider and their eggs as the sulphur mixture, but it will temporarily hold the spiders in check, but in bad cases will require more than one treatment during the season. I have said that the spider is spasmodic and irregular in its attack on citrus trees. Some orchards have a good stock of spiders every year and require treatment. Other orchards, even when not treated, suffer but little injury. From observation it seems as though the spider worked more freely on trees practically free from black scale. It is supposed by some that the fungus accompanying the black scale in some measure interferes with the work of the spider.

* * *

FUNGUS FOR BLACK SCALE.

In the Cultivator of last week Dr. S. M. Woodbridge writes of the fungus which destroys the larvae of the black scale, while it is yet under the shell of the old scale.

I have observed in many cases what I supposed to be the effect of this fungus in destroying the larvae of the black scale. I find the shell of the old scale full of dead larvae of the scale. But it does not destroy the larvae of all the scale on the tree. It would be of interest if Dr. Woodbridge would give us the condition most favorable for the growth of this fungus and what effect moisture and climatic conditions would have in its propagation.

A hot, strong lemonade taken at bedtime will sometimes break up a bad cold.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

THE OLD ESTABLISHED
WOODBRIDGE
FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

Your Last Chance
To Go East at the Exceptionally Low Rates in effect via the
SALT LAKE ROUTE
Tickets on sale September 7-8-9-10 11-16-17.
SALT LAKE ROUTE
Saves you Time and Money to New York, Chicago, St. Louis, Memphis, Omaha, Kansas City, and all Eastern Points.
If you are going East call on the nearest representative of the Salt Lake Route, or droo a line to H. F. Gentry, Traveling Passenger Agent, Los Angeles, who will be glad to plan your trip so as to secure you the Maximum Pleasure at the Minimum Trouble.
E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

Peas 500,000 Pounds Two Hundred and Fifty Tons Peas
Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.
Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

Hoegee's HAVE THE GOODS
Khaki Suits for Comfort
Laced Boots for Hard Wear
Tents for Wise People
Hoegee's Canvas Irrigating Hose
Saves the Water—Wears Well—Costs Little
NEW CATALOGUE GUNS AND AMMUNITION
Send For It
OTHERS—Outing, Tent, Athletic, Fishing
The Wm. H. Hoegee Co.
Incorporated
Phones—Exchanges 87 138-142 So. Main St., Los Angeles
When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

VALUE OF PERENNIALS.

In gardens where only a limited care can be given, those that are occasionally neglected for a time, the use of perennials will give much better satisfaction than any annuals. Perennials root deeply in the soil and most of them have a fine system of fibrous roots, often running into thousands on a single clump of plants. Such an arrangement well fits them for successfully enduring drought and periods of neglect. Good care must be given the first summer, however, to ensure the proper development of a feeding system. If more of these old fashioned perennials were used we would hear far less about having "no flowers in summer," and "our garden is so bare of plants during hot weather."

The following is a list of such plants as are used for such purposes as above stated. Some of these plants have annual sorts, but you must, in ordering, get the perennial species. Asters, candytuft Canterbury bells, corecpsis, geraniums, petunia, phlox, poppy, rudbeckia, sunflower. The perennials among the asters, sunflowers, etc., are not so large and showy as the annual species but are, as a rule, easier to grow and their permanence makes them extremely desirable as compared with the annuals. Those grown from seeds may be planted now. Plants may be put in whenever procurable

CARE OF PANSIES.

A Riverside county correspondent asks: "When is the best time for sowing pansy seed, and how to sow and care for same?"

The time to sow pansy seed is now. The best plan is to sow in shallow boxes three to four inches deep, not so tight but water can run through bottom. Fill with sandy loam, press soil down gently with your hands or block of wood, sow seed evenly over the surface and cover very lightly with soil. Never allow the surface of the soil to get very dry, neither keep it in a soggy condition.

Keep on the shady side of the house and when plants are one-half to one inch across, plant where needed in a rich, friable loam and keep well watered and manured until well in bloom, when the fertilizer can be withheld. If boxes are not to be had for starting the seeds, a shady spot at the side of the house will do, provided the soil is easily drained. As these plants are for winter and spring flowering they should be planted largely in the sun, though they will flower in almost any locality sooner or later. Pansies are perfectly hardy anywhere on the Pacific Coast. The hot sun of summer is what they cannot endure. If planted for summer they should be put on the north side of buildings or trees, shrubs, etc. The flowering season may be greatly prolonged by keeping the old flowers and seed capsules picked off.

COLUMBINES.

Columbines will grow almost everywhere and they should be found in every garden, for their blooms are invaluable for cutting. The columbine is a most desirable plant in all its varieties. It forms a large clump, blooms long and abundantly and is elegant in habit. The seed may be sown in the open ground, preferably where the plants are to grow, and they should be thinned to a foot apart, or to secure a good display of flowers the following season they may be sown in the fall, or good clumps of seedlings may be planted at that time. Most of them thrive with ordinary garden culture. The varieties coerulea and chrysantha do best in well drained, partially shaded spots.

Aquilegia coerulea, the Rocky Mountain blue columbine, is called the finest of all, its sepals dark blue and petals white. Chrysantha has golden yellow blossoms, with very long spikes. Skinneri, the Mexican columbine, is very handsome and quite distinct, the spurs and sepals long, crimson and light green.

There are also many beautiful hybrids in pink and white, mauve, creamy yellow and pure white, which are quite as lovely as the typical plants. We have one species quite general throughout California in the coast mountains, A. truncata, having scarlet flowers tinged with yellow.

THE CRAB'S EYE VINE.

About fifteen years ago M. Nowack, an Austrian, described a "Weather plant" supposed to have been discovered by him. The plant in question proved to be what is known in the West Indies and elsewhere as the "Crab's Eyes." It is a slender vine with pinnate leaves, producing small, bright-red seeds with a black spot. The scientific name is Abrus precatorius. The first name was given on account of the softness of the leaves, and the second (prayer or paternoster pea) because the bright-colored seeds were sometimes used as a rosary.

M. Nowack claimed that by closely watching the changes that took place in the position of the leaves and the rise and fall of the twigs and branches he could predict "changes in the weather and also the occurrence of earthquakes." After a full and careful investigation made at Kew and elsewhere, Professor F. W. Oliver was in a position to show, conclusively, that the "Crab's Eyes" plant only exhibited the usual sleep-movements commonly noticed in tropical vegetation and that there was no connection existing between these movements and the changes of the weather or the occurrence of earthquakes.

This vine is quite common throughout California and has been watched during changes of weather by many interested persons, but no one has been able to notice any change in the plant other than comes to many under like circumstances. We find altogether too many "wonderful" plants in the seed catalogues of the present day.

THE FORSYTHIA.

The Golden Bells or Forsythias are very well known from their brilliant yellow flowers which lighten up the shrubbery in the earliest days of spring. They are amongst the most highly ornamental of our shrubs, remarkably free flowering, and later, when the leaves appear they form handsome bushes with clean foliage, unusually free from pests or disease. They grow almost anywhere, but given a rich soil their luxuriance is really astonishing. There are several forms in cultivation, the commonest of all belonging to two species, viridissima and suspensa.

The garden forms known as Sieboldi and Fortunei are varieties of the latter species, which is one of the most beautiful shrubs for the margins of groups, as it forms a perfect mantle right down to the ground. The tips of the shoots will take root in the ground, and thus perfect thickets can be obtained from one original plant. The plant grows six to eight feet high. The variety Fortuni is more vigorous than the type, while Sieboldi is very slender. F. viridissima grows with an erect habit and the flowers are not so purely yellow. Another form often confounded with suspensa is F. intermedia, a hybrid between the two other species; it is very free flowering, has flowers like those of Fortunei and resembles the other parent in its foliage. In the south end of our State these shrubs do best in partial shade, north slopes or exposures, growing best under the influence of sea breezes. Farther north they seem to thrive much better and will stand more exposure to the sun.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, Etc
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.
When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

SECTION OF YEAR-OLD PLANT
(Photographed in the Field)

Buy Burbank's Rhubarb

This creation of California's plant wizard is practical for you in your garden. It's everbearing — (Winter, Summer, Fall and Spring.) Crimson flesh. Never stringy. Stalks small, but juicy. Tender and luscious as a berry. Needs little sugar. Everything you've wanted rhubarb to be.

Roots NORTHERN GROWN and ROBUST. Three years' successful bearing in our trial grounds. Require little water. Plant this Fall and cut this Winter.

Price prepaid, small roots, 25c each, $2.50 dozen, larger roots, 50c each, $5.00 dozen.

CHAS. H. LILLY CO.
PORTLAND. SAN FRANCISCO, SEATTLE

Lilly's Puget Sound Seeds and Plants are grown for this climate. Send your orders to Lilly and be sure to get the best.

MAIL THIS TODAY!

CHAS. H. LILLY CO. SEATTLE, WASH.

Enclosed is $.....(in money order, draft, stamps) for which send me (prepaid).....large .....small BURBANK'S RHUBARB ROOTS.

Please send me (free postpaid) your Plant and Seed Catalog.

Name .....

Address.....

R-9

General Agricultural Notes

SULPHUR AND POTATO SCAB.

The Rural New Yorker thus answers an inquiry as to the use of sulphur and formalin for potato scab: "We have used sulphur for some years, both alone and in connection with soaking. For preventing scab we do not find it equal to soaking, but we are satisfied that it sometimes prevents rotting of the seed, especially in wet soils or cold, damp season. Formalin is better than corrosive sublimate for soaking the seed. You can use one pint of formalin in thirty gallons of water. We would rinse off the potatoes before soaking and let them stay in the liquid two hours. They will not be hurt unless the sprouts are very far advanced.

"The same liquid can be used again and again. After taking out the potatoes, dry them and cut. We use peach baskets for this purpose, scattering sulphur over the seed from time to time, and shaking the basket so that the sulphur sifts down through. The basket should be used the second time. The true scab is a skin disease which spreads by means of tiny germs.

"The object of soaking or using sulphur is to destroy the germs on the seed without hurting the sprouts. Of course a liquid would be more likely to destroy all these germs than a powder would. There may be germs in the soil. In such case the crop might be scabby even though all the germs on the seed be killed. This will explain the matter to some who cannot understand how there could be scab on the crop if the seed is thoroughly soaked.

"In some cases sulphur has been scattered in the hill or drill with the seed, and this has given clean tubers even when it was known that a scabby crop grew there the year before. We have found that the sulphur preserves the seed. In some cases we have found the piece of seed with the sulphur still on it at digging time."

ADVANTAGE OF THE SILO.

After referring to the advantage of ensilage as a feed the Western Farmer and Dairyman gives the following good points:

A cheap improvised silo will be a failure and is not to be recommended. The most approved and satisfactory silos are those which are built round, the height should be at least twice the diameter. Any durable timber will answer the purpose for silo building, the inside surface should be smooth. Two by six plank are commonly used, either square edged or with tongue and groove. The bottom is ordinarily prepared by excavating and building a stone wall laid in cement. There is no objection to having this excavation three or four feet deep, it is not necessary, merely increases the capacity of the silo, the wall should be one to two feet above the surface. On this the staves are set up on end and held in place by five-eighths inch round iron rods, wire cables answering the same purpose, securely fastened with lugs and screw nuts. The hoops at the bottom should be placed about two feet between each other, the distance may be slightly increased after passing the center of the height of the silo; at or near the top they may be two and a half or three feet apart. Any kind of a roof that will keep out the snow and rain will answer. Doors are cut at intervals of three or four feet to facilitate the filling and particularly to get the ensilage out for feeding purposes. The filling is rapidly done. An ensilage cutter and some kind of a power are necessary. At the present time gasoline engines are preferred—eight or ten-horse power would be a good size. In securing a cutter be sure and get one that economizes in power. You can either use a carrier or a blower; the latter are considered preferable, yet there are those who cling to the carrier.

It is generally conceded that the best time to put corn into the silo is when it begins to glaze. It should be cut and drawn from the field, run through the silage cutter and made into lengths varying from ½ to 1½ inches, the shorter lengths preferred. If the corn is pretty dry add a few pails of water to each load. If in good condition this is not necessary. It is very important to tread thoroughly around the outer edges, as it is a necessary feature to have it thoroughly packed. Keep the center higher when filling, so it will settle toward the sides and not away from them. When the silo is filled it will in a short time settle a number of feet, and can be filled again after a few days. At the final filling it may or it may not be covered at all, but expect to lose a few inches of silage on top.

The feeding of silage properly stored in a good silo to dairy herds has been a pronounced success. It is not only one of the best but cheapest feeds that can be produced. There is every reason for believing that with the same acreage double the number of stock can be kept, and especially in the case of milk cows a large increase in the flow may be expected. The feeding of silage to sheep and all kinds of horn cattle has been highly satisfactory. About forty pounds daily is a good ration for a cow. If the corn is very heavy, feed less and supplement it with alfalfa.

QUALITY OF POTATOES—SUMMARY.

The salient and practical lessons to which the study of soil climate seems to point may be briefly summarized as follows:

1. Tubers grow out upon a short stem or stalk from the plant stem at regular nodes above the planted tuber. It is therefore necessary to plant five or six inches deep (in good soil) in order that the plant may have room enough to form nodes to accommodate the tubers which it is able to bear.

2. If planted deeper than six inches the moisture and temperature conditions are unsuitable for the development of the tubers on the first one or two nodes. The tubers are of under size, immature, and somewhat prone to scabbiness.

3. If planted shallower than three inches, the variations in temperature and moisture is too great for proper development. The tubers are crowded, and there is a large proportion of small, compound, exposed and scabby tubers and also a tendency to produce tubers on the stalk.

4. Tubers growing between the depths of one and one-half and four inches are of more uniformly good quality in appearance and cooking, in good size, and good development, than those growing deeper or shallower.

5. Long tubers which grow sloping in the ground will show a difference in cooking qualities (mealiness vs. sogginess) between the bud end (end nearest the surface) and the stem end. The stem end cooks more mealy. In most of such instances the stem end is netted, while the bud end has a smooth surface.

6. Though it cannot be said definitely, it is believed that good quality is developed under a uniform soil temperature of 65-75 degrees. Tubers growing one and two to five inches below the surface are subject to these conditions. Great fluctuation in temperature is detrimental to the best development of potatoes. Tubers growing above the one and one-half inch level are more or less subject to this fluctuation. Uniformly low temperature below 65 degrees is not conducive to the best development and ripening of the tubers. It may bo also that soil texture has an influence on these favorable and adverse conditions.—Desert Farmer.

INTENSIVE FARMING.

As a lesson to American farmers an exchange says:

Japan contains about the same area as Great Britain, with considerably more inhabitants. Yet she produces all the food required by her people and exports a large quantity in the shape of rice, whereas Great Britain imports foodstuffs to the amount of hundreds of millions of dollars.

The secret of this wonderful difference in favor of Japan is to be found in the greater knowledge and skill of her farmers in the promotion and preservation of fertility. The Japanese farmer would be horror-struck at the idea of cultivating the soil to the extent of reducing its fertility. The American farmer outdoes the English farmer as a soil waster. There are large lessons here.

Milk which stands too long makes bitter butter.

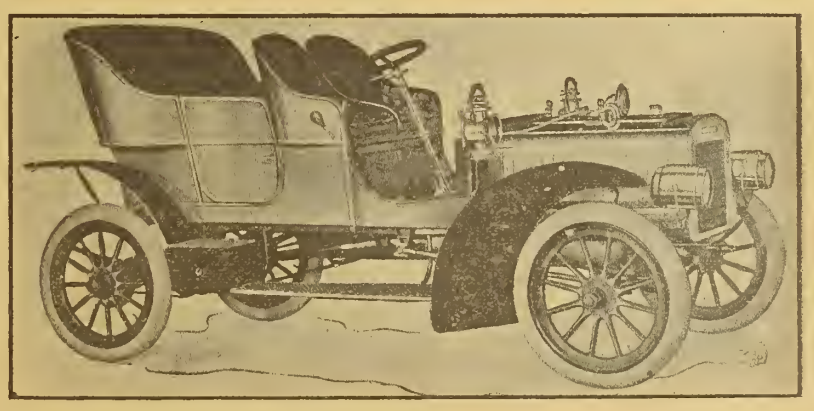
WANTED

To rent on shares or for cash the best sandy sediment cantaloupe and early grape land, located at Brawley, Cal. Will furnish seed or grape vines, land, water and everything except labor. Will rent in any sized tracts for a term of years. Get full information from

Imperial Investment Company
315 H. W. Hellman Bldg. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Have You Seen the Moline Cars?



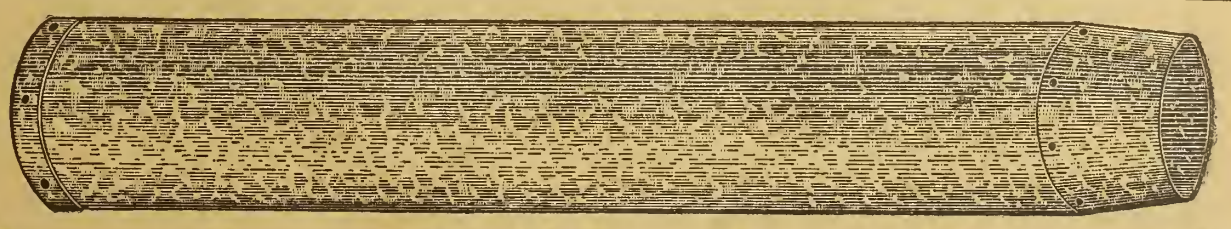
The most beautiful family cars on the market.

A carload of Runabouts just arrived and will be sold at $950.

Call and see them.

Wm. Gregory, 602 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** *WRITE FOR CATALOGUE*

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 **DOLGEVILLE, CAL.** The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 15, 1905

CONTENTS.

	Page.
California State Fair	243
Selecting Water Melon Seed	244
Bees and Their Ways	245
Value of Perennials	248
Care of Pansies	248
Outlook for Citrus Fruits	246
Parasite for Purple Scale	247
Advantage of Silo	249
Editorial	250
Coast News Notes	251
Live Stock Breeders Association.	252
Sheep Tick	252
Portable Fence	253
Care of Bull	254
Comparative Value of Alfalfa	254
Dry Feeding	255
Poultry Question Box	256
Fruit Trees in Poultry Runs	257
Household	260-261
Markets	262-263

SOLICITORS WANTED.

The Cultivator wants two subscription solicitors, to put in whole time in the field. Salary or commission. Must have a bicycle. If you write us, state age, previous experience, if any, references and how soon you will be ready to work. We would prefer to have applicants call at our Los Angeles office, 203 New High st.

Stop Landlordism.—The Cultivator called attention recently, editorially, to the vast landed estates held by half a dozen men in California. The untold damage to our State by reason of such holdings was pointed out. Now comes the information that a syndicate has been formed in England, by titled aristocrats, to take up immense tracts of land in several States of the Union and introduce the system of landlordism as it exists in Europe, in America.

In a well known eastern journal appears the following item on this subject, which is sufficiently startling to warrant serious reflection:

"Foreign landlordism is reaching out its tentacles in the direction of America. A syndicate headed by the Earl of Verulem and the Earl of Lankerville owns a vast tract of land in Wisconsin. Alexander Grant of London county owns 50,000 acres in Arkansas. Mr. Elfenhauser, of Halifax, has 600,000 acres in West Virginia. A Scotch concern, Syndicate No. 1, bought 50,000 acres in Florida. The Holland Syndicate owns 5,000,000 acres of grazing lands in the West, and the German syndicate 2,000,000. It is said that 20,000,000 acres of good American land are owned by foreign landlords (English and Scotch). That is an area larger than the State of South Carolina."

When we recall the fact that 50,000 American farmers went over into Canada last year, leaving their farms in hundreds of cases, to be tenanted by foreigners, with no experience in our methods of agriculture, and when we recall the farther fact that farmers are pouring into towns from the country, increasing the city population and decreasing the agricultural products in a corresponding degree, we may well ask ourselves the question, when will this condition of affairs cease. We must have intelligent farming to accomplish results, and we can not hope for this under a system of landlordism, such as is in vogue in the countries of the old world, where unintelligent labor is wholly employed.

The Federal Government may be called upon to pass a law which will obtain in all States of the Union, as it does now in irrigated districts, over which the government exercises supervision, that no individual can take up more than 160 acres of land. This will be the saving to America of its lands, for its own people, and put an end to the graft of the foreigner whose eyes are turned upon our verdant fields with the purpose of acquiring vast domains. We want not great estates, but small farms thoroughly tilled, as are the lands in Japan today. We want not aristocrats for farmers, but toiling men and women, intelligent, educated and ambitious to make every acre they possess return its ounce of gold for the labor bestowed upon it.

* * *

Sharp Resolutions on the Agricultural Farm Project.—The Live Stock Breeders, at their annual session, last week, at Sacramento, passed the following resolutions in opposition to the project of locating the agricultural farm and school at the seat of the State University at Berkeley. They are worthy of careful perusal:

Wheras, The Legislature at its latest session enacted a statute providing for the purchase of a university farm and the establishment of a school of agriculture thereon; and

Whereas, There has been considerable but unavoidable delay in the selection of said farm, with the consequent delay of the opening of said school, the commencement of experimental work and the conduct of short courses of instruction in agricultural practice; and

Wheras, It has been advised by certain unauthorized persons that many of the most important provisions of the bill be ignored or departed from; and

Whereas, This bill was a farmers' measure, originated by them, drawn and advocated by them, and passed in their interests; therefore be it

Resolved, That we demand the enforcement of the bill as it was passed and according to its strict terms; and be it further

Resolved, That we earnestly request of the members of the commission for the selection of the farm that they proceed with all possible haste to select the said farm of the kind and in the locality provided for in the said bill; and be it further

Resolved, That we most earnestly oppose the suggestion that the farm be purchased in the vicinity of Berkeley or adjoining the University, because such selection would be in violation of the bill, and because suitable soil and climate cannot be had there, nor is the same susceptible of irrigation; and be it further

Resolved, That we deny that the sole purpose of agricultural education is to prepare teachers, specialists and leaders of thought. This is only one of its purposes, and modern experience has shown that to be effective, it must be supplemented by that type of practical and popular instruction which meets the demands of the great body of our farming people. We make no assault upon our College of Agriculture. Let it continue to prepare after its chosen method the very few young men which it is able to attract, leaving us free to educate our remaining youth to such extent as their means afford, and in the manner suited to their needs; and be it further

Resolved, That as this is a farmers' bill, we demand that we be left free to realize all of its possible benefits. We submit that we are the best judges of what we want, and as the farmer and producer pays all the taxes, including such as support all the departments of the State University, we feel that we should be permtitted to use some of our own money for the education of our own youth; and be it further

Resolved, That we favor the school of agriculture provided for in our bill, and ask that it be immediately organized.

There are thousands of our young men and women who need it and will immediately attend it for such length of time as their means and time afford, who are and will be unable to take a college course.

We hold in indifference the claim that such youth at the end of their periods of attendance are not thoroughly educated. They will be better educated than when they entered and by whatever name their condition may properly be called, they have been assisted, enabled to earn better livings, and to lead happier lives, and the State has been strengthened by having been given more enlightened citizens, who, as farmers, will create her wealth, rather than having been driven into other walks to, in too many instances, become charges upon her bounty; and be it further

Resolved, That we favor that character of instruction which is qualified to reach the great body of our farm youth, which offers something to everyone, no matter what his time or means, and which includes within its scope practical as well as theoretical training, and which has the direct purpose and tendency to illustrate the best possibilities of an agricultural life, and to incline the student to the adoption of the profession of agriculture, and that we have confidence that our bill properly carried out will effect these ends.

* * *

More Senatorial Boodling.—The four Senators under conviction in this State for bribery, are not the only ones who went wrong last winter at Sacramento, if we are to believe the testimony of ex-Senator Bunker, who has recently made a confession implicating other members of the State Senate in the same crime for which he was arrested. The confession connects the names of several persons in high social and political life and has created a sensation second only to the original charges of corruption made against the four boodling Senators. While it is to be regretted the Legislature contained corruptionists, it is a happy circumstance that their crimes were found out and that their speedy arrest followed. It may serve as a warning to other members of the Legislature to deal honestly with the public, through fear of detection, if their own conscience will not deter them from dishonest methods.

Ordinarily the death bed confession of a criminal may be looked on with more or less suspicion, for unless it is supported by correlative evidence it lacks the element of belief, but in this case the witnesses are living and the accuser makes bold to declare his ability to prove his charges. So we many reasonably infer that Bunker is telling the truth and that the drag net of justice will shortly haul from under cover the other fellows who have thus far escaped.

The whole people of California most earnestly desire that the boodlers shall be punished. Let the work of investigation go on, "let no guilty man escape," and may the lesson taught be severe enough to deter other officials in State or County employ from the reprehensible crime of grafting.

The College Farm Question.—Evidently a mistake is being made by the University of California, if the sentiment eminating therefrom is correctly reported, in attempting to force the location of the college farm and school at Berkeley, the seat of the State University.

The farmers of California are getting into line against the aggressive policy of the professors of the University, in a manner which is exceedingly interesting. Last week the Cultivator reproduced the resolutions of the Viticulturists' Association of St. Helena, wherein strong ground was taken against the proposed location of the farm at the seat of the State University. This week we give, in another column, the resolutions passed by the Live Stock Breeders Association, in session at Sacramento.

These resolutions, like those from the St. Helena association, are pronounced against the effort of certain Berkeley professors to grab everything in sight for the State University.

The time has come, it would seem, when the farmers, in whose interest the farm and school was supposed to have been devised, should express themselves on the subject. They should do just what the St. Helena association and the Live Stock Breeders' Association have done, pass resolutions of disapproval and forward them to the members of the commission. If the project is one to advance the interests of the farmers, they, and not outside interests, should have the deciding voice as to where the proposition shall be located. Concensus of public opinion is to the effect, and we believe intelligently so, that the farm shall be located where it can do the most good to the greatest number of farmers. If it is a farmers' measure, the farmers should derive the benefit from its location. If it was intended to be a proposition to advance the interests of the State University, and the measure was put through with that secret understanding the scheme was wrong in its inception and is very little above the danger point of political dishonesty. At least it was not sincere. So many things are put through legislative bodies, under the guise of benefitting the farmers, that the public has come to look with suspicion upon almost every proposition which comes up bearing the stamp of proposed agricultural improvement, and if now, in the face of the protests against it, the farm and college are taken to Berkeley the whole project will be censured by the farmers from first to last.

The hills around Berkeley are not suitable to an agricultural farm—as proposed. Practical irrigation can not be taught. The climate is not best for agricultural experiments, such as are needed. The education by college professors, undisciplined in practical agriculture, but learned in languages, philosophy and mathematics, is not what an agricultural farm needs. Such a farm, such a school demands practical men. California has had too much theory already. Let it now have a change to practical education. As Judge Shields put it in his address before the Live Stock Breeders' Association on this subject:

"All the farmers ask is to be permitted to spend some of their own money in their own way. They want a separate and popular college, not aristocratic and exclusive. They will support the university, but demand the right to place their sons in a purely agricultural atmosphere in school. They want a school where boys can go such time as they can, and as their means afford, to learn practical things, and they do not want to be told that that is not educational."

The Cultivator is not making any fight on the University of California, nor upon its faculty. We are all vitally interested in the greatness of that school, we want it to grow, to extend its influence, to become the greatest educational factor on the Pacific Coast, but to be this it is not necessary to take under its wing a school which is foreign to its work and for the development of which it is not properly equipped. That is the question, pure and simple. The farmers understand it and they understand it aright.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The hot weather last week is reported to have injured the grape crop to some extent about Etiwanda.

Already over 300 car loads of apples have been sold by Watsonville growers to a Denver fruit firm, at good prices.

The Armsby company proposes to increase their fruit packing house at Marysville to four times its present capacity.

Orange packers and shippers in the Porterville-Lindsay district are preparing to send out fruit unusually early this fall.

The first car of Tokay grapes from Folsom, shipped August 12th, brought $2.25 and $2.35 per quarter crate in the eastern markets.

The Mountain View Register states that the fruit exchange at that place has been buying prunes on a three and a half cent basis.

A new fruit packing house is to be built at Nordhoff, Ventura county, this fall, to be ready for handling the coming crop of oranges.

Orchardists about Placerville report a fair pear crop. Some of the growers got as high as $45 per ton, but some orchards were under contract for five years at $20 per ton.

It is reported that the Windsor winery in Sonoma county will pay in excess of $15 per ton in order to secure enough grapes to make up its shortage of about one hundred tons.

Walnut buyers are said to be in the field in Orange county offering to make contracts with the growers for their crop at twelve cents, but are finding very few sellers at that price.

Oranges about Whittier are coloring very fast and it is now thought that that section will send out the first car of Navel oranges from Southern California this year, the same as last year.

The harvesting of Bellefleur apples in the Pajaro valley has commenced. Several carloads have already gone forward. The demand from all over the country for these apples is good and the chances for good prices are fine.

The Kaweah Lemon Co., of Lemon Cove, shipped its first car of lemons last week. This company has quite a large acreage just coming into bearing and will ship several more cars this season.

The fruit growers near Woodland have petitioned the supervisors of Yolo county to appoint a commission for the purpose of eradicating the diseases which threaten horticulture and viticulture in that county.

The new Placer county winery at Roseville commenced crushing grapes last week. The wine cellar is said to be the largest in the State, covering a floor space 90 by 160 feet, and has a capacity of one and a half million gallons.

Some trouble was experienced by apple packers at Watsonville last week in securing cars to ship fruit. Cattle cars were used temporarily to tide over the shortage. Several orchardists in the valley have sold their crop for the season by the ton.

Under the direction of the Los Angeles County Horticultral Commissioners, the orchardists of East Whittier are making a concerted attempt at this time to eradicate the purple scale by fumigation. More fumigation outfits are required to make the move a success.

The Whittier News says that the area in vineyards near that place amounts to between fifteen and eighteen thousand acres. The crop this year is not up to the average in size nor is the price high, $10, f.o.b., but the industry, taken as a whole, means considerable to that section.

John Hanna, of Mirafiores, informs us that he last week refused 12 cents per pound for his nut crop, taking the run of the orchard, made by an independent buyer. Mr. Hanna's trees are laden with the best crop of nuts ever borne by them, and he entertains a notion that he will receive 13 cents for them, or better.—Anaheim Gazette.

At a meeting of the old raisin association, held at Fresno last week, it was voted by the Board of Directors to commence suit against every member of the old association, numbering about two thousand, that the courts may settle as to the liability of growers who received the advance of three cents per pound two years ago on their raisins, the crop afterward selling for less than the amount advanced.

At the annual meeting of the Azusa Covina-Glendora Fruit Exchange, held recently, the reports showed that while the association shipped forty-nine cars less than last year, yet the total receipts were about $100,000 in excess of the former season. While the returns were not all quite in, yet the total cash received for the year's fruit will be close to $650,000. The shipments, as made from different associations, are as follows: Azusa Assn., 257 cars oranges; Azusa Foot-hill Assn., 191 cars oranges; Glendora Assn., 543 cars oranges; Charter Oak Assn., 65 cars oranges; Irwindale Assn., 155 cars oranges; Azusa Foot-Hill Assn., 91 cars lemons; A. P. Griffith, 13 cars lemons, Total shipments for the year are: 1211 cars oranges; 104 cars lemons.

AGRICULTURE.

The State grange will meet at Napa, commencing Tuesday, October 3d.

The bean crop in San Luis Obispo county is reported as much larger than last year.

Wulff Bros. last week bought two hundred and fifty acres of asparagus land on the Lower Andrus island, near Isleton.

The Fullerton Vegetable Association is sending out a carload of sweet potatoes a day. Last week they shipped ten cars.

The Empire Asparagus Co. is to build a cannery and will plant four hundred acres of asparagus in the delta lands near Lodi.

Owing to the blight in the early part of the season, the potato crop about Bayside, Humboldt county, will not be as large as usual.

The new crop of mustard about Lompoc is reported of excellent quality. Some sales have already been made at $4.30 per hundred.

California will use about 6,000,000 bushels of Washington wheat this year. The Washington crop will amount to about 35,000,000 bushels.

Hop pickers are very short in some Oregon fields. At Independence 200 men arrived by special train the other day, when 800 were expected.

Hop growers of California are organizing to control the selling of their product. It is intended to complete the preliminary organization at Sacramento next Sunday.

The sugar mill at Chino is now slicing about seven hundred and fifty tons of beets daily. Three to four carloads are being shipped out each day, mostly to eastern points.

Chas. Volkerts, the potato farmer of Hueneme, Ventura county, this year raised from one and a quarter acres of land two hundred and thirty-one sacks of very fine potatoes.

Fred Kemp, who is ranching in the Flint Hills, near San Juan, recently got a return of $510.00 from two acres of land sown to onions. The yield was 300 sacks to the acre, which he sold at 85 cents per sack.—Watsonville Pajaronian.

Under direction of the Fresno Chamber of Commerce, parties are at work visiting the farmers to secure contracts with them for planting and caring for certain acreage of beets. It is proposed to start a new beet sugar factory in that vicinity next year.

The hop picking season in the Sacramento valley is about over. The yield was better than was expected, this being true of quality as well as quantity. Buyers are attempting to bear the price of new hops and growers are forming a combination for self-protection.

Fifty acres of land have already been secured for the purpose of raising asparagus near Holtville in the Imperial valley, and it is hoped that farmers in that vicinity will raise enough more to bring the acreage up to two hundred acres, in which event a cannery will be built.

The Pacific Coast Ginseng Co., of Sunnyvale, Santa Clara county, was recently incorporated for the culture of ginseng. The company has two acres partly planted, the ground being covered with lath houses, as the plants require protection from the direct rays of the sun. Mr. Anderson, the president of the company, says that he sold $2000 worth of seed and roots last spring.

Nearly one hundred men employed in the hop harvest of D. P. Durst, near Wheatland, went on a strike one day last week, demanding an increase of pay of twenty cents on the hundred pounds. They have been getting $1.05 and insisted on $1.25. Not getting their demand satisfied, they commenced a war on the Japs who were also helping pick and drove them from the field. Work of picking was suspended, causing considerable loss to the grower.

LIVE STOCK.

Twenty-one hundred and seventy-five head of hogs were shipped from Imperial valley to Los Angeles packers during July.

Messrs. Fred Parks, W. J. Perry and F. W. Johnson, of Marysville, have secured a tract of land of 400 acres at Chico, and will establish upon it a dairy farm.

The live stock show at the Portland exposition opens September 19th and will last eleven days. The prize list totals about $40,000 and with interest from the best cattle producing regions in the world promises to be an event of national importance in stock circles.

MISCELLANEOUS.

Financially the State Fair was an even break this year.

The Fay ranch near San Fernando, consisting of 900 acres, was sold last week for $57,000.

The Marysville cannery has closed for the season, after a very successful run of two months.

A race meet is to be held at Santa Maria immediately following the racing at Hanford in October.

The new winery of T. L. Orr in Green valley, Sonoma county, is to have a storage capacity of 200,000 gallons.

A new cement plant, to cost about $2,000,000, with a capacity of five thousand barrels per day, is to be built near Santa Cruz.

The salmon pack for the Pacific Coast this year is estimated at $14,000,000, which is about $2,000,000 more than that of last year.

The Mound Water Co., which is owned and controlled by the farmers of the Mound District, Ventura county, who have one of the finest pumping plants on the Coast, began work last week on the contruction of a 1,500,000 gallon reservoir.

The Napa and Lakeport Railroad Co. has been incorporated and expects to construct a standard guage road from Napa through Napa and Lake counties to Lakeport, the main line of the road being ninety miles. The capital stock is claimed to be $2,000,000.

Salt River, near Phoenix, owing to high water, broke last Thursday, letting the water out and flooding the valley, causing heavy damages to the growing crops, as well as making it very difficult for farmers to put the land in shape for fall planting.

The State game officials arrested parties at Eureka last week charged with wholesale illegal traffic in deer hides. The seizures of hides were more extensive than any made in recent years. The officials are determined to prosecute to a finish all those implicated in the traffic.

A meeting, largely attended by farmers and others interested, was held at San Diego last Friday and an organization was formed and resolutions passed to the effect that the irrigation systems now in operation and under construction were well calculated to serve the nucleus of a great system to be developed in the future by the government. The plan of the new association is to endeavor to bring all the irrigation interests in that district under one head and have it taken over by the government.

The Byron Jackson Machine works, of San Francisco, have a new advertisement in this issue. This is one of the oldest and safest firms making pumping machinery in the State. If you are thinking of buying a pump send to them for a catalogue and don't fail to mention the Cultivator.

C. H. SESSIONS, ASSOCIATE EDITOR

CALIFORNIA LIVE STOCK BREEDERS' ASSOCIATION.

The California Live Stock Breeders Association met in Sacramento last Thursday and listened to some interesting papers, transacted the usual business and elected its officers for the coming year. It has become the settled custom of this association to hold its annual meetings during the session of the State fairs, and they have proved remarkably profitable to those who have attended. The officers elected for the coming year are: C. D. Pierce, president; S. B. Wright, vice-president; James Whittaker, treasurer; Professor E. W. Major, secretary; Directors—General W. R. Shafter, Judge Peter J. Shields, E. W. Howard, F. L. Hodgkins, William Pierce, F. M. Pickering, Isaac Bird.

Amongst the most interesting features of the session were addresses by Judge Peter J. Shields, of Sacramento, Prof. E. J. Wickson of the State University, and Prof. J. A. Craig, Dean of the Texas Agricultural College.

The liveliest discussion of the entire session was due to a series of resolutions regarding the location of the State farm, provided for by the act passed at the last session of the legislature. That act provided for the means to purchase the farm and named a commission to secure the best possible location which should comprise typical California farming land, at least one-half of which is to be irrigable land. The cause of the resolutions and the discussion which came up in the session of the live stock breeders was the remark recently made by Prof. L. H. Bailey that ten acres is sufficient for such farm and that it might be located in the hills near the town of Berkeley. This was thought to be preposterous by the greater number of the speakers attending this convention and the feeling was freely expressed that it was an effort on the part of the University to force the farmers out of their rights in this hard fought battle and deprive them of all that they have been striving for so long, a typical farm school.

The resolutions, which may be seen upon the editorial page, are couched in no uncertain language, and the discussions which followed their introduction were, if anything, still stronger than the resolutions. Professor Wickson, who had read a most interesting article on extension of agricultural education, was present and he suggested that the resolutions should not go too fast and assume that the case is lost, and minimize the strength behind the law. The agricultural college at Berkeley is not out of harmony with the farmers, simply because some one has said the farm should be at Berkeley. If the law is carried out in its spirit the farm will go where it ought to. The resolutions discount the location commissioners to select the farm location, and that is weakness.

To that, Judge Carroll Cook replied that he did not think the resolutions discounted the commission. They simply express the opinion and wish of those interested in agricultural interests. They assume the commission will do as it should do, but declare that the commission should not follow the advice of outsiders. Public demand is that the farm be not located at or near Berkeley.

In referring to the position Professor Bailey had taken, Judge Shields remarked:

"The bill says the land shall be typical of the best in California and California conditions, yet Professor Bailey scorned and sneered at that idea. He regretted that the professor came to California to obstruct the only genuine awakening of agricultural educational interest the State has had.

The bill does not hamper the university. It leaves its work free as heretofore. It does not discourage or deny it. Professor Bailey has aroused among agriculturists a universal feeling of resentment."

After further and extended discussion, the resolutions were passed without a dissenting voice.

In speaking of the true agricultural school in a later talk, Professor Craig, of the Texas Agricultural College, said that the true agricultural school must be one of short courses for those who can, and longer for those who will; it must have a farm typical of the field in which the student is to work. If in California no such farm can be secured to represent all soil conditions, then there must be experiment stations to supplement the farm. Once more he declared that the practical agricultural school must be free from the university, and not require severe educational qualifications.

THE SO-CALLED SHEEP TICK.

The so-called sheep tick is not a tick at all; but a fly without wings. The real tick is a variety of spider, and has eight legs as all the spider family have. But the so-called sheep tick has six legs only, as all the flies have. And it belongs to that class of flies which, like the mosquito, lives on blood which they draw from animals on which they prey.

Just now, in the spring of the year, these ticks are leaving the ewes on which they have been living—buried deeply in the fleeces—and especially so as the ewes are shorn, and are changing their homes on to the lambs in whose closer fleeces they find safer quarters and less exposure. They suck a large quantity of blood; this having been estimated at ten times their own weight every day. In fact they are sucking blood while they sleep, having their proboscis—which is really a pump fastened to the unfortunate lamb down into its skin, and thus they work, awake or asleep, day or night, protected by the dense covering of wool against all efforts of the lamb or the sheep to dislodge them. Of course when the sheep are shorn, the ticks are exposed to sight, as well as to the efforts of the sheep to pick them off the skin, and by natural instinctive efforts to save themselves, they leave the ewes and go on the lambs, which are very soon covered by them. Then the young lambs, unable to withstand the loss of blood and the continuous worry, as well as pain inflicted on them, stop growing and fall off in condition, and indeed in many cases unless relieved from these enemies, they hide themselves in some corner and die, for want of blood. Of course, it is always a time to keep a watch on the lambs to relieve them from these tormentors, but is especially needed when the ewes are sheared and the ticks become exposed to the light, and so leave the ewes and crowd on to the lambs which are then literally bled to death, unless relieved from these persecutors.

This may be done by dipping the lambs in any good prepared dip. But this is to be done with care that the dip reaches every part of lamb's body. The close fleece should be opened and searched for ticks, and a thorough clearance be made of them, during the dipping. The work is so easy, if done properly, that it should never be omitted. And it will save many lambs, that otherwise may be lost, for want of the relief.

THIS SKIMMING MACHINE takes the cream from the milk quicker than wringers squeeze water from clothes. It gets **a quarter to a half more cream** than by setting, because it uses centrifugal force—a force thousands of times stronger, quicker, more effective than the force that makes cream rise in pans.

Sharples TUBULAR CREAM SEPARATORS

Skimming finished five minutes **after** milking, because boy of ten can run Tubular **during** milking. No skim milk to warm, because skim milk is fed still warm from cow. **Half less washing, labor and expense,** because only cream is put away. Catalog X-260 explains clearly.

THE SHARPLES SEPARATOR CO.
Toronto, Can. West Chester, Pa. Chicago, Ill.

When writing advertisers mention Cultivator.

CLIFFORD'S ANTI LUMP JAW

Lump Jaw can be cured. We mean exactly what we say—there are *no* "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing **"Clifford's Anti Lump Jaw"**—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.

Our **Hog Cholera Remedy is guaranteed to cure.** Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.

Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our **Chicken Cholera and Roup Remedy** will cure all diseases that the feathered fowl is heir to.

CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

When writing advertisers mention Cultivator.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

FLYO-CURO
Will Free Your Stock of Flies and All Kinds of Insects

COTTON SEED MEAL
The "Economic Feed" for Stock

KOW-KURE BAG BALM

HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON 884 James Flood Bldg., San Francisco

DE LAVAL SEPARATORS

AND OUR LINE OF **DAIRY AND CREAMERY MACHINERY**

are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.

DE LAVAL DAIRY SUPPLY CO.

9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

Palm Glen Jerseys

Final Dispersal Sale of Island and American Bred, to Highest Bidder Before Oct. 5th, viz.:

Oxford's Golden King 68922, born Oct. 11th, 1904. Oxford-Fon aine-Blue Belle-Finance Golden Lad. Nine of his near kin averaged over $1000 each at last sale of Mr. Cooper. Price $250—not half his value. Rosalres Rosette 180622, born Nov. 4, 1903, due Nov. 10th. Golden Lad-Flying Fox. Price $275 and worth far more. Owls Golden Belle 177464, born March 11th, 1903, due December 8. An Owl-Golden Lad. Price $225, and well worth it. Golden Kings Eloise 168276, born July 10th, 1902. now fresh. An Oxford-Finance cow. Price $200, not near her value. St. Lamberts Lady Jane 177425, born March 19th, 1903, due November 28th. A large, handsome cow of great ability. Price $2 0. Sultanes Lady Fern 187897, 9 months old, choice. Price $100. Sultanes Golden Queen, heifer calf, $50. Melias Golden Fernald, bull calf, $50.

Most of above were bought at a long price for foundation stock for a new herd; and there are none better in breeding, udder, teats, dairy form and productiveness. All are large, rich milkers, not one testing less than 6%. They will be sold to the highest bidder before Oct. 5th, but no bid will be accepted if less than one-fourth the price for one, or if less than one-third the price for entire herd. Time can be had on part if needed. This discount means loss to me, but continued sickness in family and sale of Palm Glen Place, requires their sale at once. To be appreciated they must be seen, so do not write but come and see and test.

A. B WHITE - PALMS, CAL.

FOR SALE

Fresh Registered Jersey Cows, Seventy-Five ($75) Dollars each.

Yearling Bulls, Twenty-Five ($25) Dollars each.

W. J. COLE, Anaheim, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

When writing advertisers mention Cultivator.

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

C. S. BURGESS

BREEDER OF

REGISTERED JERSEY CATTLE

Jerseys with a record as milk and butter producers

Riverside, California

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

When writing advertisers mention Cultivator.

The fact is that it is so easy to save both lambs and ewes from all this class of skin parasites that it is a matter for surprise that the owners of flocks do not practically exterminate them, and save much money as well as humanely relieve the sheep and lambs from much discomfort, and indeed torture, from these pests by the easy means suggested.

Every flock should be dipped as soon as shorn, and the lambs should be included in the treatment. But the common half-work done is nothing more than a method of continuing the evil. There are many flocks in the hands of foresighted and humane owners which are completely free from all this class of external enemies of sheep. The cost is not nearly so much as the saving made in the mere produce of wool from the flock. But there is a large gain made in the better growth of the sheep and lambs, as well as in the product of wool. It is a great mistake to think that the sheep turn out quite as much wool at the annual shearing whether they are annoyed by these parasites or are free from them, or that the lambs will make the same growth in spite of them. The facts are, that every discomfort to which the flock is subjected takes so much from the sheep both as to the regular growth and yield of flesh, and wool, as well. And while these losses may not be thought worth considering as long as the sheep survive, and live through them, yet the pocket of the shepherd suffers every year from losses that it would be profitable and easy to avoid. It is not a question of mere humanity and comfort to the lambs and sheep, but it is a serious money matter, and this has been so shown by the figures of the profits of the owners of flocks duly cared for in this way, and the losses of other flocks which have been neglected. There is a very common proverb in use: "It pays to be good." And there is no other way in which it pays so well as it does to be good as in respect of the shepherd and his sheep will repay every dollar spent on them in this way of securing ease and comfort, three times over—once in their growth, once again in their health, and the absence of occasional dead sheep, and again in the better condition of their lambs. And besides, there is that personal reward in the contented and satisfied mind of the shepherd who loves to see his ewes feeding in comfort, and the lambs play in pure overflowing happiness. And all this is gained at the mere cost of a little care and watchfulness which cost nothing, and a little work by which the expense of it is returned several times over.—Blooded Stock.

BATHING HORSES IN SUMMER.

Where a lake or river with a sandy bottom is handy, it is an excellent practice to give horses an occasional bath in summer. It is the quickest and most thorough way of cleaning a horse perfectly. Of course a good brushing daily will do wonders for a horse to keep him in best condition., but in very warm weather, when the horse sweats freely and the perspiration dries on him, no amount of currying and brushing will compare to a good bathing.

This will not only be refreshing and add comfort, but it will open up the pores of the skin, being a direct aid to the health of the animal to say nothing of the pleasure it gives a person to have a bright and clean horse to drive. If no lake or river is within easy reach, use a couple of pails of water with soap and a good brush. Then with a little patience and work a very good job can be accomplished.

* * *

The above from an eastern exchange is good, for the writer has followed the plan of washing horses in warm weather. The horses will stand under the hose and let the water run over their backs in complete enjoyment, apparently. Besides, if it is a warm day and they are allowed to stand in the sun to dry off after washing, it is most beneficial.

PORTABLE FENCE.

An enquirer in the Cultivator recently wished information as to construction of portable fence for keeping hogs. The following from an eastern exchange has a hint in that line:

Many people take the time to look into the advisability of making investments in a far-distant-sure-to-get-rich company, but who take no time, nor even consider the advisability of making investments in improvements at home. In many sections of the country stock raisers have taken to pasturing off standing corn with hogs and sheep. Reports from time to time have shown that while the business may seem a wasteful one, actual tests have proven the contrary.

To pasture off corn requires a great deal of permanent fencing or at least a moderate amount of permanent fencing or a considerable amount of portable fencing alone. Woven wire is by all means the best and cheapest fencing for this purpose. Ordinarily the 26 to 30-inch ribbon of woven wire will turn sheep and hogs. Especially is this true where the areas enclosed are large or larger than that to which the hog is accustomed. Woven wire fencing is very easily put up, and where only an occasional staple is used to hold it, such a securer will be found sufficient. Furthermore, fastened in this way, the fence can easily be taken down previous to moving it.

The main secret in putting up these portable fences is that of deeply setting, bracing and properly anchoring all corner posts. This done, the wire can be stretched tightly and made to remain so. Sagging here or being sprung there is unusual. Animals will not try it much and even though they do when but few intermediate posts are used, not much impression will be made.

In moving this fence the ribbon is either rolled up or pulled about loose with the aid of a team. The latter of course is the common method on the cultivated fields because here it is practicable and possible. Often after the wire is in place, a steady team hitched to a wagon is employed in stretching the wire instead of a wire stretcher.

In handling this sort of wire, the work can be hurried along because there is not much danger of wire cuts about the hands. For the most part one man can move a ribbon of wire much more easily than numerous single barb-wires and at least more quickly.

The value of these portable fences is scarcely known as it should be. Whether the area to be pastured be large or small, they are important. All farms have some kind of pasture that becomes lost unless early arrangements are made to save it. Some have corn, others have rape, and still others weeds. To be ready means that the fence must be gotten into place soon. 1000 rods may make $50 for you this year. You still have the fence left.

The best way to get rid of old sheep is to fatten them and sell to the butchers.

WANTED:

Dairy and Stock Men to know and realize what the following means. We will give you a three-year lease on from 40 to 160 acres in the Imperial Valley, Southern California, on a share basis. The land is the finest river bottom sediment soil in the world with abundance of irrigation water every day in the year. We will furnish the cows and other stock, buildings and tools and every thing to work with. You to put your experience and labor against our capital. You must show us that you are capable and practical. A splendid opportunity for the right party. Address

Imperial Investment Company

Suite 315, H. W. Hellman Bldg. Los Angeles, Cal.

When writing advertisers mention Cultivator.

The Rancho Verde Co.

OF

Victorville, California

Will buy thirty (30) head of Milk Cows if price and quality are satisfactory. They must be either Pure Bred Jerseys or Guernseys or high grades of either breeds, not under 3 years or over 6 years of age. None to give less than three gallons per day.

When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD

DAIRY SHORTHORN BULLS FOR SALE

Admiral Dewey 183493 and King Edward 184393 at head of herd. Address

Fred Fuller & Bro. Imperial, Calif.

Berkshire Hogs Dairy Shorthorn Cattle

I am booking orders for pigs for September delivery. G. A. MURPHY, PERKINS, CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE

Thoroughbred Holstein Bulls and Heifers

Thoroughbred Berkshire Boars and Sows

FRESNO, CALIFORNIA

Holsteins For Sale

From the farm that has produced many record breakers and high testing animals. Home of the JULIANA family.

MINNEWAWA STOCK FARM, FRESNO, CAL.

When writing advertisers mention Cultivator.

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch

Box 321. Petaluma, Cal

When writing advertisers mention Cultivator.

Vaccinate Now

AGAINST

ANTHRAX

AND

BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory

322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

When writing advertisers mention Cultivator.

CARE OF THE BULL.

The bull is usually the unruly member of the herd, so that he must be confined to the stable, and few farms have a place where he can be at all comfortable. To leave him tied in a stall, on a hard floor, injures the feet; while a dirt floor becomes filthy. Then, too, the lack of exercise is an evil for which the owner sometimes has to pay dearly. It has before been stated that on our farm the bull finds an outlet for his surplus energy in pumping water. But that will not relieve him from standing on a wood or stone floor. To obviate that to some extent, this plan is followed: A long rope is let out from the side of the barn. A ring is fastened to lower end of rope, with which the chain he is usually fastened by is connected. He is allowed to stay in that place until the sun gets around, when he is put in the stable. In this way his feet come in contact with the cool earth for a number of hours each day, and if other exercise were not supplied a fair amount would be gained by the walking around which the long rope permits. An improvement on this plan would be a similar rope on east or north side of barn to which he might be removed afternoons.—Farm, Stock and Home.

THE COMPARATIVE VALUE OF ALFALFA.

Such is the composition of our minds that we need often to have a thing repeated, and dinned into us before we have absorbed it sufficiently to make any use of it. Take this plant, alfalfa. Thousands of farmers are taking up the cultivation of this most valuable forage plant. Yet a large proportion do not seem to have an adequate sense of its value and the importance of great care in curing it. Careless, shiftless methods are used, and the hay that is finally gathered in, is wretched stuff in many instances. All this because the farmer does not carry in his mind the right idea of its value and what he must do to save that value. We have often heard farmers say, "O, I can't afford to take the pains you do with it, etc."

When we ask them if they had that number of tons of bran lying out would they talk that way. They frankly say "No." Now whether alfalfa in its best estate is as valuable as brain or not, it is near enough to it, to justify the farmer having a better idea of its value than he generally does. If it were bran he would take care of it no matter what it cost. He would not stop a minute to count the cost of hay crops. The fact is these men have had no chance to note the difference there is in the feeding value of alfalfa cured in the cock under hay caps and that cured as they want to do it.

Secretary Coburn, of Kansas, gives a good formula for estimating the value of alfalfa as compared with other hay plants.

We repeat it so it shall not escape the mind and judgment of our readers. Here it is:

One acre of alfalfa yields as much protein as three acres of clover, nine acres of timothy and twelve acres of brome grass.

Let every farmer remember, who has any alfalfa to handle that he needs to take three times as much care of it as he would of timothy, and twelve times as much as he would of brome grass.

In the light of that comparison can any man be justified in saying he can't afford hay caps? or, he can't afford the extra labor of putting it into cocks?

We must measure some things by other things in order to get the right idea of things in our mind.

* * *

The above from Hoards' Dairyman shows the esteem in which alfalfa is held in the East and the care which it is deemed worth. From it Californians may get a lesson and give greater care in its curing here. The caps may not be necessary, but the allowing of such a valuable crop to lie and bleach for days, as we have seen it done, is certainly most objectionable.

THE STATE FAIR.

(Continued from First Page.)

kins, Cal., was on hand with a fine showing of Jerseys, Southdown Sheep, Berkshire hogs, and probably had a lot of Plymouth Rocks down at the Pavilion. Premiums—of course, and all along the line.

On Jersey cattle—six first, one second and one third, and four gold medals. On hogs—four first, two second, and two thirds. On sheep—six first, four seconds and one third.

Gen. W. R. Shafter and P. B. C. Sielcken were in the Jersey line and mighty fine stock they had.

L. V. McWhorter & Sons, of North Yakima, Wash., had no competition in Devons and while they took all the premiums it was at a loss in cash, as the premiums were cut in half on that account. From Washington, also, were shown some very fine Brown Swiss cattle—a comparatively new breed to this country.

Among the Berkshire breeders, Judge Carrol Cook and C. W. Reed made good exhibits.

The San Gabriel Valley herd of Poland Chinas, shown by W. R. McCaslin & Son, of Walsh Station, Sacramento county, also deserve special notice. Mr. McCaslin has two gold and two silver medals along with twenty-three ribbons.

The judging of the live stock was interesting. This year the stock was judged by Professor Major of the University of California, assisted in the matter of beef by Professor John A. Craig, Dean of the Texas Agricultural College, and Professor Leroy Anderson, of the State University, who assisted in judging dairy cattle.

The stock parade on Thursday was very fine, the procession being headed by the directors in carriages. First came the prize-winning Percherons, Belgians, Clydesdales, English, French and German coach horses, thoroughbreds, standard trotters, road and saddle horses, roadsters, carriage teams and Shetland ponies.

Next in order come the cattle; the Pierce Land & Stock Co. from Riverside Ranch, Stockton, with thirty-five head. Twelve Shorthorns from the Quinto Herd. Four second prizes were awarded this herd. Twelve head of Greenwood Shorthorns shown by J. H. Glide & Sons of Sacramento. These animals won all the sweepstakes but one. The Chowchilla herd of Shorthorns from Merced numbered twenty-five and were awarded five first and four third premiums. Gen. Shafter had eight head, four receiving first prizes and four second prizes. B. F. Rush and William Pierce, of Suisun, had ten head of Shorthorns in the line. Thomas Waite, of Perkins, had eight head of Jerseys, while seven breed were represented in La Palita Del Monte herd of Jerseys from Calistoga. The Brighton herd of Shorthorns, seven head of butter test cattle, were exhibited by P. H. Murphy, of Perkins. H. P. Eakle, Jr., of Woodland, led a yearling Shorthorn bull which received first prize.

L. V. McWhorter & Sons had fourteen North Devons in line on which they had taken eleven first premiums and the fifteen head of Brown Swiss cattle owned by J. M. Jayne received thirteen premiums.

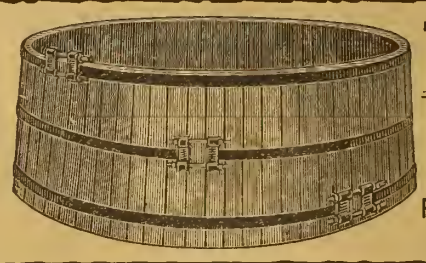
During the week the weather was unusually pleasant and while a little warm and dusty at times, no fault can be found with the weather clerk. Taking everything into consideration the management may be congratulated upon a successful fair.

Sheep have excellent digestion and hence they utilize feed to the fullest degree.

White Plymouth Rock Poultry Ranch
Write us your wants.
J. T. DAVIS, Prop. POMONA, CAL.

Gold Medal Herd
JERSEY CATTLE
SOUTHDOWN SHEEP
BERKSHIRE HOGS
Thos. Waite - Perkins, Cal.
When writing advertisers mention Cultivator.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.



TANKS
Wine Tanks, Oil Tanks, Water Tanks. You can save money by getting my prices. My improved tank is easy to erect. A hammer and wrench are all the tools you need.
R. F. WILSON MANUFACTURING WORKS
STOCKTON, CAL

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.
When writing advertisers mention Cultivator.

Don't Forget the Main Point
in dairying is to **make it pay.** The more cream you can get, the more pay, **providing** you do your skimming at the smallest cost in time, labor and running expenses. You can make it pay **most,** with least trouble and smallest expense, by using the Improved
U. S. Cream Separator
FRENCH CAMP, CAL., July 13, 1905.
"I purchased a No. 7 U. S. Cream Separator last April. I have only three cows, but since the 28th of last April I have sold $71.88 worth of cream. I find it everything that could be wished for. It runs very light and is *a perfect skimmer.*—U. B. GOEN."

Gets the Most Cream
and Holds World's Record for Close Skimming
A little figuring will prove to you that Mr. Goen couldn't average about $120 a year **per cow** unless he did get all the cream.
Send for handsome booklet, No. 378, about "The Dairy—and How to Make it Pay the Most." Free—*send now* for it.
VERMONT FARM MACHINE CO., Bellows Falls, Vt.
18 Distributing Warehouses throughout the United States and Canada
Prompt Delivery Assured California customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

SHASTA ROUTE is the way to the great
SOUTHERN PACIFIC
LEWIS & CLARK EXPOSITION
Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.
$35.00 ROUND TRIP
Exposition opened June 1, closes Oct. 15. Information at 261 So. Spring St., Los Angeles
SOUTHERN PACIFIC

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

DRY FEEDING.

(4th chapter.)

Dr. N. W. Sanborn, of Bellingham, Mass., writes in the Poultry Keeper a most interesting article on the "hopper method of feeding hens and chicks." Extracts from his article will finish our chapters on dry feeding and I hope may prove useful to many of us. He says: I have had more letters lately about the dry feeding method than in regard to any other two poultry matters. There is a feeling among poultrymen that the giving of mashes did not work as perfectly as it should. In the feeding of young chicks many who have used both methods think they see much gain in the use of dry feeds. A few of the owners of large plants who have adopted the hopper method say that it has reduced the cost of chicks and eggs.

More than one owner of several hundred hens says that the hopper way of feeding has helped him in the use of cheap workmen. It takes a good poultryman to feed mashes and meals of whole grain in the old way and not injure his birds. These men soon get into business for themselves and the proprietor of a plant of any size must take second-class help. This new dry feed method comes in to help make possible the running of poultry yards with indifferent help. It also makes easy the keeping of a few hens where the owner must be away during daylight hours.

* * *

Fitting Method to Conditions.—There is no method that is perfect. Every one has some disadvantage about it. The one that will best suit you and me is that one that most closely fits the conditions under which we keep hens and chicks. I am sure most of us can adopt to advantage more or less of the hopper methods.

It is fifteen years (longer than most experiments to prove anything in chicken feeding.—Ed.) since I introduced my hoppers of bran and grit, but took twelve years of experience before I dared risk my winter egg record on hopper methods. There is some loss of finely ground grain and meat in the hopper way of feeding, but it is too little to be hurtful to the pocketbook, and may be largely overcome by the careful construction of the hoppers.

The hopper method as applied to growing chicks is well worth trying. It does not do away with green food or free range. In fact, the hopper method, as applied to growing chicks, calls for grass range. It may not be free range, but it should be yards large enough to keep in green condition through the growing season.

* * *

What to Give for Food.—The newly hatched chick does well on some of the advertised chick foods. I take the chick food as I buy it in one hundred pound bags and add thirty pounds rolled oats and twenty pounds of wheat screenings. I feed the chick food, as I buy it until the chicks are twelve days old, and at that age add the wheat and rolled oats. I seldom feed meat scraps to my chicks until they are a week old, and often it is two weeks before they get animal food. The prepared chick food should be continued until the chicks are deserted by the mother hen, or cease to need the heat of the brooder.

* * *

The growing Youngsters.—When the chicks get their first coat of feathers and begin to range out into the fields, you can feed somewhat cheaper. The very best of results can be obtained on just two articles of food, cracked corn and beef scraps. This has been the diet of more hopper fed chicks than all others. They make rapid growth, are contented and in good condition to kill at any time. I know one grower of thousands of chicks, who uses wheat screenings and meat scraps for the feeding of the "youngsters" and he has the best of success. Of course he has to fatten any chicks that are to be marketed.

Chicks will not show much fat without feeding something of the corn nature. For growth you can find nothing better than meat and screenings, combined with good grass range. Screenings are hard to buy in the East, and most of us have to use cracked corn. Chicks handled in this way are more healthy and sturdy through the growing season than under the old ways of feeding.

* * *

Summer Feeding of Laying Hens.—When we come to the summer feeding of laying hens we find that the hopper method must be applied more thoughtfully than when we feed chicks. Hens cannot be fed as we feed chicks. Even hens on grass range put on too much fat if allowed access to corn in any form. If the hoppers are to be kept filled you had better limit your hens to meat scraps and wheat or wheat screenings. Even then a feed twice a week of barley will be helpful to the birds. This can be put into the hoppers when nearly empty of wheat and filled up with the wheat. If you can build hoppers that will not waste ground grain you can use this to advantage.

* * *

Summer and Winter Rations.—During the winter I use for ground grain a bin that is just a lard pail. This is nailed to the side of the pen and filled one-third high with finely ground grain. The birds waste hardly any when fed in this pail. This dry feed is made as follows: bran, two parts; corn meal, two parts; meatmeal one part; finely ground clover hay two parts. This is before birds at all times, and whole grain is fed in litter. In summer this needs to be changed in proportions.

A summer ration for laying hens that gives good results is made as follows: Bran, three parts; middlings, one part; cornmeal, one part; meat meal, one part. This dry feed before the birds at all times, with a light feed of wheat at night, will give a fine summer record along egg lines and will keep the birds in good condition to be moulted early in the fall. It does not do to feed males on the hopper method

A Profitable Poultry Ranch

FOR SALE

H. H. Holland, Fresno, Cal , offers the El Oro Poultry Farm, of about five acres, one mile from city limits and one-half mile from electric car line. About 400 mature fowls and 500 young ones, from best strains of birds. A home, a good living, and a margin of $500 to $1500 per year. One-third cash down, balance long time.

Place has growing alfalfa in every yard and several hundred fruit and shade trees. Entire place enclosed in 8-foot wire fence and divided into about 20 yards. I have 4000-gallon water tank, 6-horse-power gas engine, 2 100-foot wells, 4-inch centrifugal pump, brooder house, 2 large brooders, 2 large incubators, incubator cellar, water piped to every yard, 2-story barn, buggy sheds and outbuildings, garden tools, windmill and pump, 8-room house, acetyline gas plant, solar heater.

My reason for selling is want of sufficient time to devote to the business. Address

H. H. Holland, Fresno, Cal.

When writing advertisers mention Cultivator.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A Filcher, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

When writing advertisers mention Cultivator.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

When writing advertisers mention Cultivator.

unless on grass range. Too many male birds are kept in small yards through the summer and fall and if fed from hoppers in small yards will overeat.

The hopper method has come to stay. It makes more easy work of poultry-keeping. It saves much sickness from overfeeding under the old ways. The death rate is reduced among growing chicks. Try it on a selected pen or two and I am sure you will be pleased with the results.

* * *

EDITOR'S QUESTION BOX.

Limberneck.—(N. M. S.) Pardon me for taking the liberty of writing to you in regard to a disease that is taking off my hens and young pullets. I have lost only one young rooster, seven young pullets and six laying hens. They began to get sick right after that hot weather we had last week; they begin to look droopy, and in just a little while drop down and cannot walk, their heads drop, their necks are perfectly limp and the birds lie in a kind of stupor, only once in a while they throw themselves around and struggle terribly just before they die. They are usually sick from twelve to twenty-four hours. They cannot swallow and the mouth has a thick slime in it. I have not saved one that has been taken with this sickness. I have been raising poultry on a small scale for over five years and never had a disease among them before this, only once in a while a case of roup. They do not have diarrhoea. I have been feeding a little heavier than usual for three weeks. I wanted to fatten some young roosters; got a sack of cracked corn and every one is fat and heavy. The hens were laying; three laid after they were taken sick. Now if you can tell me what caused the sickness and what to do for it I shall be thankful.

Answer.—Your hens had "limber-neck," brought on by the hot weather, and they were more susceptible to it from their being fat, and also from your feeding more corn than usual; corn is heating as well as fattening and that, with the very hot weather, caused the trouble. Your letter gives a most accurate and intelligent description of the illness, which is like sun stroke, or heat prostration in the human family. The first thing to do is bathe the head with cold or ice water, then I always give the hen one drop of tincture of aconite in a teaspoon of water. Dr. Sanborn says a remedy that has been successfully used is: Hyposulphite of soda; dissolve one teaspoonful in half a cup of water and give a teaspoonful of the mixture to each affected fowl every two or three hours. A teaspoonful of hyposulphite in a quart of water for the whole flock is a good remedy.

The following is said never to fail: Give the affected bird a piece of assafoetida about the size of a green pea. Use the gum form. Repeat the dose the second day, and the trouble gradually disappears.

In addition to this I would give more green food and less corn, and for about a week give the whole flock some Epsom salts, about a tablespoonful in half a gallon of their drinking water, and try to give them shade.

* * *

Various Questions.—(A. M.) 1. Will White Wyandotte chickens hatched February 12 last, moult this fall.

2. Will cocoanut cake, 25 to 35 per cent in the mash once a day cause them to moult—other ingredients of mash are bran, middlings, ground barley, Darling's beef scraps and alfalfa?

3. Some of these pullets—White Wyandottes—commenced to lay at 5 months. How soon can I use them as breeders?

4. How soon can I use the cockerels—February hatched—mated with the old hens?

5. Is it true, as some people think, that there is a larger percentage of infertile eggs from the White Wyandotte than from other breeds? If this exists, can it be overcome?

6. Some of my cockerels, otherwise pure white, have their plumage stained from the barnyard and from nest droppings. How can this stain be removed?

Answer.—They will have a partial moult.

2. It is not the food that causes them to moult, it is the feathers being ripe, like ripe fruit. Some foods help the feathers to ripen; cocoanut cake is one of these; so also is cotton seed meal and linseed meal or oil cake; these have to be cautiously fed or they will upset the digestion and cause liver complaint.

3. Eggs will hatch from pullets, but the strongest, largest, most vigorous young come from hens a year or two old. If a pullet is large and well developed and lays a large egg, you can commence to hatch when she is nine months old.

4. Cockerels can be used at nine months if they are large, vigorous birds.

5. This is an undecided question. Most old breeders think that the small combs and wattles of the Wyandotte males indicate a smallness or inferiority in the organs of reproduction; it is certainly true that the lively Mediterranean fowls are more productive than the smaller comb Americans. The only way of overcoming this is to keep the male birds vigorous and only allow them a limited number of mates (not over eight).

6. Washing with Ivory soap or pulling out the stained feathers two months before the show is the only way of removing the stain.

* * *

Heat Prostration.—(M. D. G.) I wish to thank you many times for the remedy for my turkey ailments in your most valuable paper of August 18. Your explanation was right, for we have had Indian Runner ducks on the turkey range and often water ran from the water trough down in the pond where they used to bathe, and the turkeys went there and drank at times. Your remedy proved a perfect success, not another turkey died after we commenced giving the pills, although it took several doses for some of them, they were so bad. Now, may I ask another question? Can you tell me the trouble when nice, healthy looking hens become weak and trembly in their legs, sometimes get so they can't walk at all, but flutter around and eat and drink as though nothing was the matter; both myself and neighbors have

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT

Calfalfa Meal

ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings or Oil Cake meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application.

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application.

MILLS
West and Nielsen Aves

California Stock Food Co.
FRESNO, CALIFORNIA

OFFICE
121 FORSYTH BLDG.

same trouble; the hens have free run.

Answer.—Your hens are feeling the heat; they may be over fat, or not have shade enough; see my answer to N. M. S., and follow those directions.

* * *

Sick Chickens.—(J. L.) I have some chickens two months and some five weeks old, which seem to have the same trouble. They hardly grow, sit around hanging their wings, and I have lost quite a few already. Their droppings sometimes have a pale red color. The chicks five weeks old are still in the warm brooder, which we keep at 85-80 degrees, and the others are in sham brooders which have wire tops and lath floors.

Answer.—The symptoms you mention are usually due to lice and overheating.

The droppings being pale red indicate over-heating food and overheating at night in brooder, with a lack of cool fresh water and shade. The air slaked lime is very hard on chicks. I never use it in brooders. Dry road dust is much better, and is all the disinfectant a cleanly kept brooder requires. Be sure to sun your brooder every day, and once a day while this trouble lasts wash and scald them out with the kerosene and carbolic emulsion, for I very much fear that the trouble may develop into tuberculosis.

I would advise you to kill off the sick, move those that have not shown bad symptoms to fresh grounds and fresh brooder, give extra green food, clean water, and dust them with buhach for lice, and you may save some of them. The sick even if cured would never amount to anything. This may seem like heroic treatment, but I fear that tuberculosis may be the trouble. Sunshine is about the only cure and preventive of this disease, which if it once infects your brooders will sweep off your chicks year after year by the hundred.

* * *

Dry Feed.—(J. S., Gardena.) Please give Mr. Sampson's address, or some one who has adopted dry feeding method.

Answer.—Mrs. Basley tried for a year and gave full report of it in Cultivator of August 25.

* * *

Turkey Swell Head.—(C. E. W.): I too, come to the Cultivator for help. Indeed I hardly know how we would get along without it. Conditions are all so different from States farther east one feels at a loss sometimes.

I have excellent success with my chickens, having raised without sickness every one hatched. Now, one of my oldest seems to have rheumatism in his legs. They have always had dry, clean quarters. I have a few turkeys, one of them has a swelling on the lower part of its head, below the eye and on the under part of bill. The symptoms seem different from those described last week. He does not seem sick and eats well. The swelling became quite large and we opened it. It contained a clear, jelly-like substance. It seems to be filling up again. There are no sores in the mouth or throat, but a slight discharge at the nose on that side. I think another bird is showing slight symptoms of the same trouble.

Answer.—Your chicken has rheumatism. See answer to G. A. J. in last issue.

The turkey has swell-head. Give him a pill of quinine and assafoetida every other night for a week, and rub the head with carbolic salve, or with my roup cure—tablespoon castor oil, half tablespoon each of turpentine and kerosene, with 10 drops of carbolic acid and half a teaspoon of spirits of camphor. I keep this in a little sewing machine oil can always ready for use. It is an almost infallible cure for roup or catarrh in its first stage.

* * *

Various Questions.—(C. V. A., Subscriber). Will you kindly tell me through the columns of your valuable paper if two thoroughbred strains of chickens are crossed, will it prevent the eggs from hatching?

Also what is the cause of chickens picking and eating their feathers?

Which is the best season to hatch for profit?

Answer.—No, they will hatch, but I do not advise crossing breeds.

When chickens are idle, they (like human beings) find some mischief to do and learn all sorts of vices, feather pulling being one. Your chickens are probably too crowded. Try to find the ring leader and eat him. Give the others a great deal more meat for a time, or nail up some pieces of salt pork for them to peck and give them more green food and something to scratch for.

March or April.

FRUIT TREES FOR POULTRY RUNS.

One of the greatest mistakes that the beginner in poultry keeping can make is to prepare a range for his birds barren of all shade. Fowls delight and it is, in fact, their nature, to have access to woodland or underbrush, where they can dig around the roots and devour the countless worms thus found, at the same time escaping from the direct rays of the sun during the intense heat of summer. It would hardly pay to provide such shelter unless it were likely to yield some degree of profit in addition to benefiting the hens; certainly not on valuable lands. Hence the advisability of selecting proper varieties of fruit trees and planting them in the poultry runs. Fowls and the right kind of fruits do well together, one being capable of netting nearly as much money as the other, and every acre of poultry land not occupied by fruit trees is to a certain extent wasted or failing to produce all that it should. Provided the soil and location are suitable, pear, plum, cherry and apple trees may alike be planted in a poultry run. The point is to get good varieties of commercial fruit from reliable nurseries, and then set them far enough apart so that the trees will have room enough to grow and expand. If any dwarf varieties are selected, they, of course, should be placed much closer together. The proper distance apart for plum trees is twelve feet; for cherry and apple trees, twenty feet. When first planted the run should be sown in blue grass and clover, as these will add greatly to the fertility of the soil, and until the trees have become well established they should be surrounded by a fence of chicken wire. After that the fowls will do no harm to their roots—not even if the soil around and between the trees is stirred up and cultivated, as it should be, so that they can scratch and wallow in it. Indeed, poultry will in this way keep down insect pests, such as borers, grubs, caterpillars, worms and the like, by eating them up as fast as they appear; moreover, when the fruits have grown sufficiently, so that the rotten and wormy ones fall, they will take care of these, and the fruit as well as the worms is good for them. The trees, on the other hand, will afford the poultry an excellent shade during the heat of summer and, all in all, the two will thrive together in a marvelous manner. Keep the trees properly pruned, remove any worms that may in the beginning secure lodgment among their foliage, turn up the soil about their base occasionally and enrich it with a little manure every year, and poultry may be relied upon to give them about all the further attention that they will need.—Agricultural Epitomist.

If it be true, and the theory seems very plausible, that grit is valuable because of what it contains rather than as a food grinder, it behooves us to pay more attention to the kind of grit we provide for our flocks.

If you can't do just what you would like to do with your poultry, don't be discouraged. Do the best you can.

If charcoal be not a part of your regular ration provide it now, during the moulting season.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger
When writing advertisers mention Cultivator.

NATURAL HEN Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.
When writing advertisers mention Cultivator.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

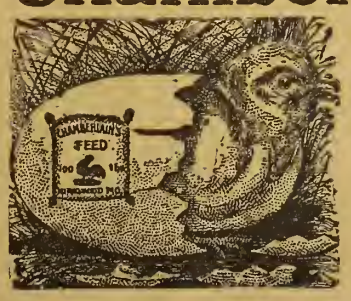
WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

EGGS WANTED FOR HATCHING
Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.
YOUNG CHICKENS AND TURKEYS WANTED
We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.
BAMBOO POULTRY RANCH AIKEN & CO. Props. **GLENDALE, CAL.**

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations
Don't believe all we say, but just enough to buy our Poultry Foods
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.
When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.
When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed


World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

A Visit to the Large Packing Houses in the Eastern Cities

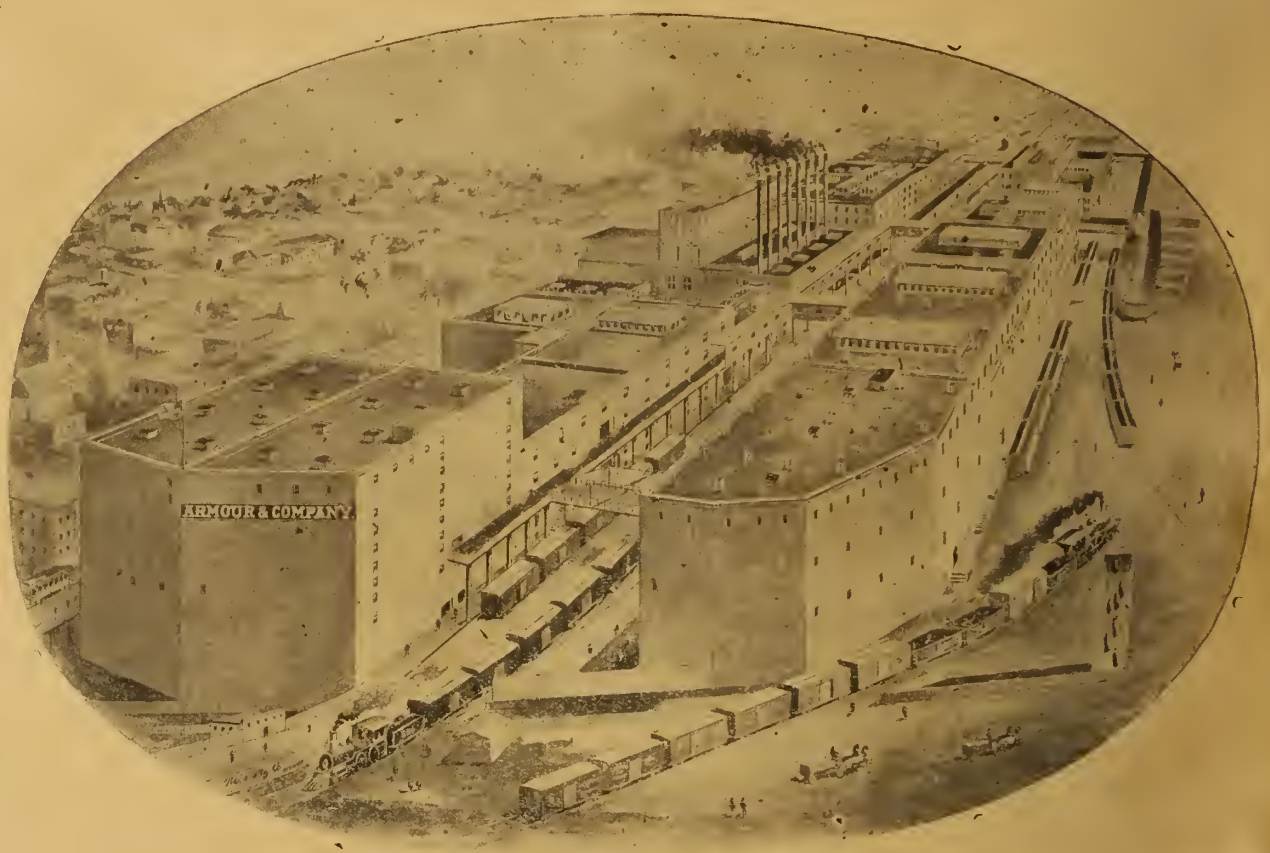
In Three Chapters.--Part I.

WILL HAVE BRANCH EAST.

Mr. A. R. Coulson, president of the Coulson Poultry and Stock Food Co., arrived home from the East on Saturday evening. Mr. Coulson had quite an extensive trip, stopping over a day or two at each of the following cities: Salt Lake City, Denver, Lincoln, Omaha, Kansas City, St. Louis, Chicago, St. Paul, Minneapolis, Spokane, Seattle, Tacoma, and also a week at the Portland Fair.

The Coulson Company is planning to establish another factory in Omaha, which will be a large institution. (From Petaluma Argus.)

Few people realize the magnitude of the packing house industry carried on in the east. Mr. Coulson's visit to the plants of the Armour Company and a few photographs taken of some of the principal parts, which we reproduce herewith, will give the reader some idea of the immense number of animals killed every day by the Armour Packing Company; and this is how they get so many hearts and livers to make the Heart and Liver Meal (animal meal) used in making Coulson's Special Dry Chick Food, Coulson's Egg Food, etc.



SHOWING PLANT OF ARMOUR PACKING CO. AT OMAHA, NEBRASKA.

Mr. Coulson first visited the Armour Packing Plant at Omaha (see illustration.) Here they have a number of immense buildings, each occupied for different purposes and in their office building there are several hundred clerks taking care of the books and correspondence, etc., and an army of some 4000 men employed about the plant.

HOGS COMING OUT OF SCALDING VAT AND SCRAPING MACHINE AND FIRST PROCESS OF DRESSING.

Mr. Capune, manager of the Animal Food Department, took the writer through the various departments, showing how the animals were killed, dressed, etc., all of which was very interesting. In one pile there was about 5000 hearts taken from the pigs and cattle that were killed that day, these hearts were cooked in a large steel tank that reached from the first floor to the fourth floor, and there were immense furnaces in the basement that heated up these tanks and cooked the meat therein. After the hearts were thoroughly cooked, then they were taken out and put into long boiler-like tanks, which had big revolving screws running through the center, and which kept stirring up the hearts until they were all crumbled up into a fine meal. These tanks were also heated up by furnaces underneath, so that the hearts were again thoroughly baked and dried. At the end of two hours the hearts were converted into a dark yellow meal, as dry as powder.

This Heart and Liver Meal is put in bags and every few days, or as soon as a carload is accumulated, it is shipped to the Coulson Poultry & Stock Food Co., at Petaluma, California, and is used in preparing **Coulson's Egg Food and Coulson's Special Dry Chick Feed.**

This Heart and Liver Meal is **great food to make chicks grow.** The Coulson Company uses lots of it in making Coulson's Egg Food, and Special Chick Food. There are many differ-

PROCESS OF KILLING AND SCALDING HOGS AT ARMOUR'S

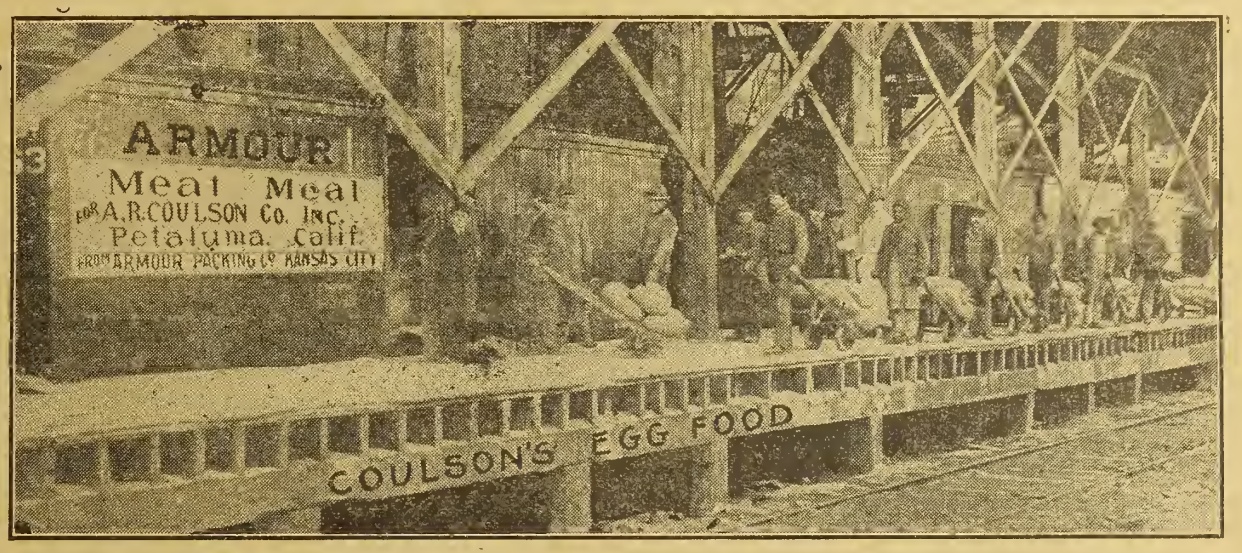
Process of cleaning and dressing hogs. Also U. S. Government inspection and view of the chill room at Armour's.

ent poultry foods on the market, but the Coulson Company is the only firm that goes to the expense of getting such good material and they have the exclusive contract with the Armour Packing Co. for the Hearts and Liver Meal. No other firm can get any of it; therefore no other Poultry Foods are like Coulson's.

If you want success with poultry, feed the pullets and hens **Coulson's Egg Food** and feed the baby chicks **Coulson's Special Dry Chick Feed.**

Ask your dealer for Coulson's. Send to us for free poultry account book.

In the next issue we will tell about the Kansas City plant.

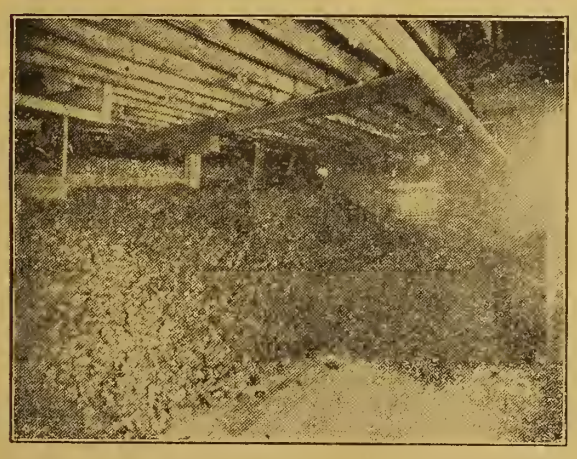


AT ARMOUR PACKING CO.

Loading cars of 400 sacks of Armour's Meat and Blood Meal for Coulson Co. The meat meal is made from hearts and liver, baked to a crisp and ground fine. The Coulson Co., Petaluma, Cal., has a contract to take the entire product of this meat meal and it is used in preparing Coulson's Poultry Foods. Ask your dealer for Coulson's Egg Food and Coulson's Special Dry Chick Feed.

Feed the Chickens Coulson's Feed

There's Nothing Better



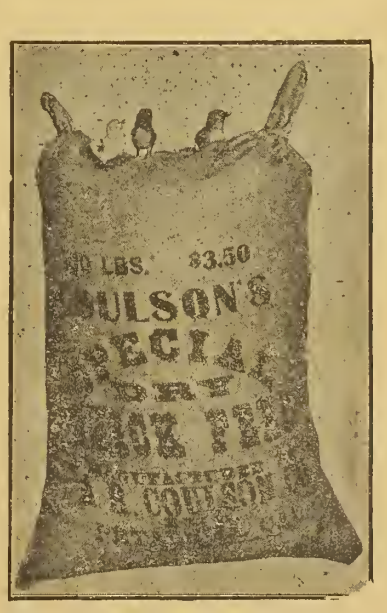
PHOTOGRAPH SHOWING

A HUNDRED THOUSAND BAKED AND DRIED HEARTS AND LIVERS

These are ground up into small pieces and used in mixing COULSON'S SPECIAL DRY CHICK FEED AND COULSON'S EGG FOOD.

A sack of Coulson's Egg Food.

A mixed feed for chickens to make the hens lay lots of eggs. This feed is composed of about three-fourths ground grains or mill feeds and nearly a quarter of animal meals, that is fresh, fine ground bone, dried blood and the heart and liver meal.



You will have the best success you ever had in raising chickens if you will feed COULSON'S SPECIAL DRY CHICK FEED. Send for sample. It's good for turkeys as well.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

STRATEGEM.

He was an aged man,
Of ninety years or more,
And at the thought of dying he
Did wax exceeding sore.

And what did he, the aged man,
To wholly calm his fears?
He robbed a safe so they could give
Him ten or fifteen years!
—New Orleans Times-Democrat.

A Lost Count

Daisy was as pretty as a June cloud and as fickle as a March wind—the brightest, giddiest girl in our village, yet withal wise. with a strange feminine wisdom. Frolicsome, demure, gay, serious, full of irony, of sympathy, of raillery, of sentiment—she had moods as many as a humming bird's hues.

Thomas loved and courted her, and so did I, and so did every other young man who dared to hope in the least for her favor. And she was impartial, almost indiscriminate with her smiles. As time passed, however, her choice seemed narrowed, until it appeared that it was betwen Thomas and me. He was the more desirable match, being both gifted and well-to-do, but something made me hope, though not without misgivings, that she preferred me.

I determined to declare my heart and know my fate. Many times I sought opportunity to do so, but she avoided my avowal, and so cleverly that I could scarcely be sure she did it purposely. How long she would have forestalled me I cannot guess, but for a chance that drove me to desperation. Passing her home one bright, warm day in May, I saw Thomas with her among the flowers. They stood close together, and he was speaking rapidly. I thought intensely, while her eyes were downcast. As I drew near she saw me, and leaving him, ran towards the gate, calling me.

"Come in, Arthur, and see my flowers! My pansies are the finest you ever saw."

"Thank you, Daisy. Another time—I'm in a hurry this morning. Good morning, Thomas."

"Too bad you can't stop," she persisted. "Thomas and I are having a fine time."

Thomas didn't look as if he was. I passed on with burning heart, and when I last saw them he was standing with her at the gate, I decided then that I must not lose any further time. The very next morning I would make my attempt. Would she receive this as she had the avowal of Thomas?

The next morning found me with her in the garden with the flowers. The surroundings of bright blossoms and mellow spring sunshine and azure skies and lisping leaves was an ideal one for a declaration of love.

"Daisy," I said, " I have long wanted to tell you—"

"Oh, now, Arthur, don't; please don't—there's a good man! Why do yon men always get sentimental in a posy garden?"

"I must tell you, Daisy. I love you. You are to me what the sun is to the flowers. I cannot live without you."

I tried to take her hand, but she skipped away and stood on the opposite side of one of her loved pansy beds.

"What a grotesque illustration!" she cried. "A great, strapping six-footer likens himself to a little blossom and compares a small black gypsy of a girl to the g-r-e-a-t big blonde sun! How ridiculous!"

"But, Daisy," I argued, "whether the illustration is a good one or not, it's a fact that my heart and life are yours, and that I cannot live without you."

"And if I say no, you'll be telling some other girl the same thing in just a little while. Talk about girls and make believe!"

"But you know this is not make believe, Daisy. I knew what Thomas was saying when I passed yesterday."

"How discerning!"

"And as I thought of it yesterday I knew I could not live without you. I knew if you accepted him, I could never be happy another day if I should live for a hundred years."

"Yet, you call him your friend!"

"Yes, and a fine man. But I want you for myself."

"Thomas is most as silly as you are. He talked just the way you are talking now. Really, you are unoriginal. It seems a girl cannot be friendly witb you men without having to listen to such stupid talk."

"But it is true. How can we help loving you?"

"Oh, just be sensible. Just say, we'll have a nice time with Daisy, and not be foolish and sentimental, as I do about the boys," she added, archly.

I leaped the flower bed and stood beside her. She had not taken her eyes from my face, and I remembered that yesterday, when Thomas spoke with her, her long lashes concealed her eyes. But as she looked at me, while there was a sparkle of amusement in her dark orbs, there was earnestness, too, and though her words were inconsequential, at best, I did not despair.

The most beautiful picture in my memory is that of Daisy among the flowers as she stood that moment with her head high in mocking challenge.

"Seriously," she said, with a gravity I had never before heard in her voice, "I know I must decide some time. And it is such a great decision that—that one cannot make it too solemnly. So let me show you the sights." She tossed her head and stretched her hands toward the flower beds.

"Do you want time to decide? Don't you know your own heart? Don't you know whether you love me or not?"

She stopped as she was turning, and stood motionless for a moment. Then she said:

"You shall have your answer now, you persistent fellow."

She ran quickly to a bed of daisies, sat down upon the grass by them, plucked one, and holding it up to me, said:

"I've always been lucky with flowers. What luck do you suppose one will give me?"

And then, while I looked on, she plucked off, one by one, the rays of the flower, saying as she did so:

"Tom, Art, Tom, Art, Tom, Art, Tom," until there were but a few left. She counted so rapidly that I could not keep up, much less anticipate the result by counting the petals remaining. Suddenly she interrupted herself with a shrill little cry of: "Oh! there's my brown thrush!"

She leaped up and stood beside me pointing. I did not see him at first.

"There he is in that maple away up at the top." She spoke almost impatiently. "He's the lovely fellow that has been singing to his sweetheart these two months."

Then she resumed her counting:

"Tom, Art, Tom, Art, Tom, Art." She said "Art with the last petal, and then, "Oh, fiddle!"

"I won!" I cried eagerly.

"Yes," demurely.

"Is it yes, then?"

I seized her hand, and this time she did not seek to withdraw it." This is a public place, Art; don't be foolish," she said, as her long lashes drooped and a rosy glow suffused her cheeks.

Since our marriage I have confided to her that I knew I lost in the lottery. She said Tom twice in succession.

"Did I?" she asked, innocently. "How odd! It was the interruption of the thrush that made me do it—perhaps."

Asking Her

To the end of his days Ellithorpe will never forget the sensation when he read the simple, cold blooded announcement in the society column of the newspaper. The sickening feeling which overwhelmed him still lingers vividly in his memory.

The notice was to the effect that the engagement of Miss Rose Burlingame to Doyle Jenkins was announced. That was all, but it was the end of the world for Ellithorpe.

As he glared at the crumpled newspaper he admitted that he had dallied. For two years he had been a constant caller at the Burlingame home. For two years he had lived in the light of her presence and hadn't opened his mouth to tell her how he felt about it. He had always meant to do so, but he was shy. Never in his maddest dreams had he pictured any other girl wearing orange blossoms and a tulle veil for him. And now—

If it had been any other man than Jenkins! But he was honest enough to admit that he would have been just as enraged and upset no matter who had been his lucky rival. Still, it did him good to pretend his wrath was because Jenkins parted his hair offensively in the middle and had a tendency to lisp.

* * *

Ellithrope pusbed his dinner away without a look at the tempting chop and left the club. He wanted to walk and think it over. There was plenty to think about—what a fool he had been, for instance. He might have known others admired her as well as bimself. What a conceited chump he had been to fancy it didn't matter when he spoke! Why, there were always plenty of callers hovering about Rose, but he had been so wrapped up in his own liking for her he had not thought about anything else. Now he was well paid for it.

Where on earth could he spend joyful evenings now. For he could never sit in the same room with the successful Jenkins without strangling him, he was grimly certain. And Rose wouldn't care to have him call now that she had picked out Jenkins. Ellithrope groaned aloud.

Suddenly an overwhelming desire to see her again, to view her in the light of this stupendous change, came over him and he boarded a car. It was quite right he should call and offer his congratulations, he told himself miserably. All the way out there he was rehearsing different ways of doing this without giving her a hint of the anguish in his soul—for he had resolved never to let her know.

When he reached her street he had not decided whether to begin the convrsation in a calm and everyday manner, gradually leading up in an incidental way to the news of her engagement as though he merely remembered to speak of it along with other pleasant news, or whether in a sprightly and jesting manner, to plunge into the subject at once. He rather inclined toward the former as more likely to give Rose's vanity a letting down and to show her if she had any lingering suspicions as to his caring deeply for her that she was wholly mistaken.

The maid had ushered him into the

HELP!

Settle Your Own Country

The Santa Fe

is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to

WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

Burlingame library, and at sight of the familiar room his heart dropped several more notches. Decidedly he would choose the first way; maybe he would even apparently forget to mention her engagement till he was ready to go home, just as though it had nearly sliped his memory.

"Good evening, Dick," she said just behind him.

Ellithrope sprang to his feet. She was looking perfectly natural, happy and placid, not at all important, as he had fancied she would, and she walked over to a chair as though nothing had happened.

Ellithorpe's eyes blurred and he realized to his horror that he couldn't follow out his program.

"I can't believe it, Rose," he heard himself saying, huskily.

"Believe what?" she asked in surprise, which grew as she noted his tragic attitude.

"This," said Ellithorpe dramatically, fishing out the newspaper folded at the fatal notice and handing it to her. As the girl scanned it her face turned crimson. There was a sparkle of wrath in her eyes.

"How perfectly horrible!" she cried, vehemently. "It's a mistake. I can't imagine who put it in. And Doyle Jenkins of all people! As though I—why, I never heard of such a thing!"

"You arn't engaged to him?" Ellithorpe shouted.

"I should say not!" said Rose decidedly.

It was then Ellithorpe found his wits and his voice.—Chicago News.

Cookery Recipes

Fig Preserves.—Gather the fruit when fully ripe, but not cracked open; place in a perforated tin bucket and dip for one moment into a deep kettle of hot and moderately strong lye (some prefer letting them lie an hour in lime-water and afterwards drain); make a syrup in proportion of one pound of sugar to one of fruit, and when the figs are well drained put them in the syrup and boil them until well cooked; removing, boil the syrup down until there is just enough to cover the fruit; put the fruit back in the syrup, let all boil, and seal while hot in glass or porcelain jars.

* * *

Canned Figs.—To three quarts of boiling water add two heaping teaspoons soda. Dip your figs in the water for one minute and skim them out; wash thoroughly in two or three waters, or until there is no color left in the water. To ten pounds of figs allow eight pounds of sugar; add just enough water to dissolve the sugar; when boiling hot, drop in the figs, having first selected them with care so as to avoid any that are broken or overripe; let them simmer slowly two hours; now remove the figs and boil down the syrup until quite thick; replace the figs; bring all to a boiling heat, after which they are ready for canning in the usual method. A few slices of lemon with its juice will improve the flavor.

* * *

White Fig Marmalade.—A delicious marmalade is made from white figs. Take perfectly ripe and fresh figs, peel off the thin, soft skin, and to every two pounds of figs use one and a half pounds of sugar and the grated peel of a large orange or lemon; cut up the figs and mash them with the sugar, adding the grated yellow rind and juice of the orange or lemon; boil all together until the whole is reduced to a thick, clear, smooth mass, stirring frequently from the bottom. When done, put into jars while hot and cover closely.

Those who like less sugar can use one-half pound sugar to a pound of fruit, and it will keep perfectly, provided it be boiled very clear and smooth.

* * *

Stuffed Figs.—Use "bag figs" (dried) which have not been pressed. Cut a small slit in the stem end of each fig and work in two or more blanched almonds.

Another mixture which is very palatable is a paste made from almonds, walnuts and hickory nuts, to which are added a few drops of sherry. A portion of the soft meat of the figs is first taken out, using a knife or a small pointed spoon. The fig is now filled with the paste. When filled, press the opening and roll in granulated sugar.

* * *

Fig Tart.—Select a dozen choice dried figs and stew them in enough water to cover them. Add two cloves, a small piece of preserved ginger, chopped fine. When tender, take out the figs and remove the spices. Add enough sugar to the water to make a good syrup and a couple of spoons of ginger syrup. Then boil for five minutes, and add a little hot water if it gets too thick. Next add a teaspoon of lemon juice. Return the figs to the syrup and set aside to cool. Put one or two figs and a spoon of the syrup in each tart before serving.

Whip one-half cup of rich cream until stiff, and sweeten slightly. Add one-half cup of dried figs, cut fine, preferably into minute dices, by aid of a sharp knife. Stir these very lightly into the cream and sugar a few at a time. Fill puff paste with the mixture and sprinkle with maple syrup or dust with cinnamon, according to taste.

* * *

Fig Marmalade.—Use only fully ripe figs. When they are considerably wilted they are cut. Cut in halves and scrape out the inside pulp; mash and strain through a very coarse sieve. Put into a glazed dish and place the latter in boiling water. Boil constantly for one-half hour and then preserve in sealed glass jars, like canned fruit. This marmalade is very fine; can be eaten with meat, or alone with cream. It is a fine relish if made from good, sweet figs.

* * *

Pickled Figs.—Seven pounds of figs picked just before shriveling, three pounds of white sugar, one quart of vinegar, one teaspoon of salt, one teaspoon of allspice, one teaspoon of ginger, one tablespoon of cloves, two tablespoons of cassia buds. Boil together for four hours, put spices in a thin bag to keep pickles clear, and more vinegar if too much evaporates, and add sugar when nearly ready. When the sugar is dissolved, add the figs. Simmer until tender.

To ten pounds of figs take four pounds of brown sugar, one quart strong vinegar, one large cup of whole spices of the following kinds: cloves, cinnamon, allspice and cassia buds. Boil vinegar, sugar and spices first, and when sugar is well dissolved add the figs and boil until tender. The figs should have been picked before being shriveled. Put all in jars; pour out the liquid three mornings and let come to a boil and return to the figs; then close the jars.

Spiced Figs.—Peel ripe white figs, and to ten pounds of the figs add five pounds of brown sugar, one quart of vinegar, one ounce of cinnamon, one-half ounce of allspice, one-half ounce cloves, the spices to be tied in bags and boiled with the sugar and vinegar. When the vinegar and spices have come to a boil add the figs, a few at a time, to prevent mashing, and boil until they look clear. When all are done put into jars and pour the vinegar over them hot.

* * *

Crystalized Figs.—The figs must be picked when fully ripe, but before they are shriveled. Take figs of as even size as possible in order to save assorting afterwards. Simmer in a kettle for twenty to thirty minutes, but do not allow to boil. When ready the figs will have become clear and transparent. Drain off the water. Prepare a strong syrup of best white sugar and drop the figs in. Keep this in a cool place. In from twenty-four hours to thirty-six hours the figs will have absorbed most of the sugar and the syrup become very weak. Draw off the syrup, add more white sugar, and thus make the syrup stronger. Simmer, but do not boil. Drop the figs in, and test again in twenty-four hours. If the syrup is weak renew the process. When the syrup retains its strength, the process is discontinued. Prepare a very strong syrup of best white sugar; simmer, do not boil. Previous to this the figs are dried in the sun or in drier, until they ring slightly when dropped on a stone floor. The figs should, however, not be so dry that they can not be readily indented when pressed between the fingers. Now immerse these dried figs for a few seconds in the strong, hot syrup, then drain off and place on wire trays in a hot-air drier or in the hot sun, if on a warm day. The syrup dries quickly and leaves the figs glaced. If crystalized figs are wanted, the figs are dried slowly in the shade, in which case the syrup cystalizes instead of producing a glace.

* * *

Candied Figs.—Are made only from young, green figs not yet fully ripe. Place in glass jars, pour on salt water and steam until soft. Pour off the salt water and pour over a syrup made of one cup of sugar to three of water. After a day take out, place on wire screens, and allow to drip for one or two days in a warm place. Place again in jars or earthenware; cover with a syrup made of one cup of sugar to one and one-half cups of water. After a day take out and allow to drip. The third soaking should be in a syrup made of one cup of sugar to one-half cup of water. In this syrup the figs are allowed to remain as long as possible, or until required. Take out, drip and roll in confectioner's sugar in a pan made lukewarm. When the figs have absorbed all the sugar they can they are taken out and packed in large boxes with powdered sugar. The preserved fruit is afterwards repacked in small boxes for the market.

HOMELY HINTS.

A burned saucepan should be filled with cold water to which a rather liberal allowance of soda has been added. Let stand for an hour or so, then heat the water slowly, and let simmer for a few minutes, and the burned particles will come off quite easily.

After making pies, there are frequently small scraps of pastry left. Roll it out in a thin sheet and spread with chopped dates, figs, raisins and nuts mixed. Lay another sheet of paste on top, then roll lightly. Cut with a heart-shaped cutter and bake delicately. Cut the pastry into rings and fingers, sprinkle with well seasoned, grated cheese and bake lightly. Cheese wafers of this sort make a very palatable salad accompaniment.

To take grease out of dress goods get from your druggist a piece of French chalk—with a penknife scrape off enough of fine dust to cover well the soiled spots, and lay the garment away carefully for some hours—a day or two, perhaps—then shake or brush it off gently. If the spots are not entirelyl removed repeat the process. I know of nothing more effective.

When frying fish, if a little salt be added to the fat the flavor of the fish will be greatly improved. Eggs are now so dear, and soon will be dearer, that instead of egging and breadcrumbing fish for frying, just dip the fish in milk and then seasoned breadcrumbs, and you will be glad of this wrinkle.

Try rubbing a mirror with a ball of soft paper slightly dampened with alcohol, then with a duster on which a little whiting has been sprinkled, and finally polish with clean paper or a wash-leather. This treatment will make the glass beautifully bright.

ABOUT ANTS

They are very persevering little creatures. *Say!* If you will use Kellogg's Ant Paste, following directions, and fail to rid your house in 24 hours, we stand ready to refund the price at any time Price 25c. If your druggist doesn't keep it, we will send it prepaid by express, 40c. Agents and dealers wanted.

Kellogg's Ant Paste Co. 1010 E. NINTH STREET LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

THE SMILE

THAT WONT COME OFF

Is always worn by the THRIFTY HOUSEWIFE who uses a

WHITE LILY WASHING MACHINE

Send us the name of your Hardware Dealer and get a WHITE LILY on 30 days trial—FREE

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

When writing advertisers mention Cultivator.

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES

Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

ESCONDIDO IS FREE.

Escondido is now enjoying the unique distinction of being free from public debt. Last Saturday saw her irrigation bonds to the extent of $350,000 and interest go up in smoke. Needless to say, well deserved congratulations are pouring into the beautiful valley down in San Diego county.

Mutual ownership may or may not be preferred to public ownership, but one thing is certain, Escondido has the water and is owing no man a cent.

But what is better still, the water may be increased and increased. The present system consists of 13 miles of tunnels, flumes and canal, diverting the flood waters from the San Luis Rey river where it drops through a wildly picturesque gorge, to the beautiful Von Seggern valley, where it is impounded. Controlled at will there, the water drops 400 feet and enters the distributing systems of cement canals, steel tubes and open flumes, which also includes the smaller reservoirs and pipes of the city system. It constitutes an ideal proposition, an engineering triumph. But this is not all; it is the key to the greater plan of government irrigation, as to this section of the Western Slope.

The waters of the San Luis Rey will undoubtedly be impounded at Warners' Ranch by a government dam. The present canal, enlarged, will probably bring them to the Von Seggern valley, when the present dam, increased in height from 80 to 150 or more feet, will create an immense storage and distributing reservoir. Other natural sites within a radius of five miles may be utilized as needed, all so located as to offer to Escondido at first hand, their stores of both water and electric power which may be utilized over and over again within her zone of influence.

Now the Escondido valley lies like the palm of a hand, the fingers, adjoining valleys, greater or less in altitude and each excelling in one or more products. Within a few miles may be raised everything worth while and of quality averaging high. More astute and enterprising communities have for years pieced out orders for their well advertised brands of products, with those of Escondido, to the public's satisfaction. We opine that ere long this thing will cease. The public will yet learn where to get its Julian and Palomar apples, San Pasqual alfalfa, Bear Valley honey, San Marcos hay and grain, Guijito beef, Poway dried fruit, Pala gems and the highly prized grapes, raisins, dairy products and poultry which pour out an ever increasing stream from this prolific region. "Escondido" will become a household brand.

Another thing little known is the fact that the best route from Yuma to the Coast is by the San Luis Rey gorge and the best route for a railway from Los Angeles to San Diego, all things considered, is via Escondido. As it is she is off the main line of travel, and fortunately, too, for she is still unboomed and unspoiled. Quiet and patient experimenting have demonstrated her possibilities. Her citrus and deciduous belts, her grain, alfalfa and vineyard lands, her gold bearing ledges and her bee pastures are all well known and are open for inspection. A man knowing just what he wants ought to be able to find it in the "Sun Kissed Vale."—H.

TOPICS FOR GRANGE DISCUSSION.

The Tulare Grange has outlined its topics for the remainder of the year. The next meeting, Sept. 16, "Shall the U. S. exclude or restrict immigration?" Oct. 7, "Duty of Fourth Degree members to the National Grange." Oct. 21, "State legislation of importance to farmers." Nov. 4, "How may farmers of this locality develop resources of their farms." Nov. 18, "Bridge building." Dec. 2. "To what extent should the Grange urge farmers' interests in Congress?" Dec. 16, "If the U. S. builds reservoirs, how should water be allotted?"

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trademarks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phones 347
When writing advertisers mention Cultivator.

Los Angeles Markets.

Los Angeles, Sept. 14, 1905.

Butter.

Butter holds exceedingly firm and with no indication this week of any slump.

B. of T. Creamery	57½
Valley Creamery, fancy	55@57½
Coast Creamery	50
Fancy Dairy	45½@47½
Cooking, per lb	20@22

Cheese.

Cal. 3-lb. hand	14¼
Cal. Young America	15¼
California Anchor	14¼
Northern	12½@13
Eastern	16
Domestic Swiss	16½
Imported do	27½

Eggs.

Eggs are firmer, with a three cent higher quotation than last week.

Eggs, fresh ranch	30
Eastern and Storage	26@28
Seconds	22

Poultry.

Poultry is firmer, with slightly lower quotations than last week.

Fryers, 2½ lbs	15
Broilers, under 2 lbs, per lb	15
Young Roosters, per lb	15
Hens, per lb	13@14
Ducks, per lb	11
Turkeys, per lb	16@18
Geese	11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	6.00
Prime Steers, cwt	4.00
Cows, cwt	3.00
Calves, cwt	4.75
Sheep, ewes, per head	3.50
Lambs, do	3.00
Wethers, per head	4.00

Potatoes.

Northern, per ctl	1.00@1.05
Locals, per ctl	75@1.12
Sweets, white, per cwt	1.50@1.75
Sweets, yellow	1.50@2.00

Vegetables.

Onions, yellow, per cental	75@1.00
Onions, Silver Skins, sks	50@75
Beets, per 100 lbs	75
Cabbage, per sack	50
Parsnips, per sack	60@65
Bell Peppers	3@4
Cucumbers, per box	35@50
String Beans	2@3
Wax Beans	2@3
Green onions, doz bunches	20@30
Carrots, doz. bunches	25@30
Turnips, doz. bunches	25@35
Garlic	20
Celery, dozen	30@40
Peas, per lb	3½@4
Egg Plant	3½@4
Chili Peppers, green	1½@2
Chili Peppers, dry	11
Tomatoes, local	25@40
Asparagus	8½@10
Parsley, per doz bunches	30@40
Summer Squash, bx 20 lbs	15@40
Green Corn, per sack	50@75
Lima Beans	2½@3

Citrus Fruits.

Valencias	$2.00@3.00
Lemons, standard	2.00@2.50
Lemons, fancy	5.00@6.00
Grapefruit	1.00@1.50
Grapefruit, seedless	2.00

Fresh Fruits.

Apples, 4-tier Bellefleur	1.10
Apples, 4½-tier Bellefleur	85
Apples, 4½-tier Rhode Is. Grn	75
Strawberries	4@6
Logan Berries	5@6
Peaches, per box	75c@$1.00
Plums	75c@$1.00
Damson Plums	1@1.25
Figs, per box	25@50
Black Figs	50@75
Grapes, Thompson's Seedless	50@75
Muscats	65@90
Tokays	$1.25@1.50
Cornichons	$1.50
Concord, lb	4@5
Pears, Winter Nellis, bx	1.00
Muskmelons, large crates	75c@$1.25
Watermelons, doz	35@1.50
Guavas, per lb	4

DRIED FRUIT.

Dried fruit market is exceptionally strong, with keen demand for the small quantity now in stock.

Prunes are quoted at 4 cents for Santa Claras, bag basis; other sections ¼c less.

Peaches: ch, 8½; ex c, 9@9¼; fy 10@11.

Apricots: st, 7@7¼, ch, 7½, ex c, 8, fy, 9@11.

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	2.75@2.85
Small Whites	3.15@3.35
Black Eyes	2.50@2.75

Nuts.

Almonds, paper shell	18@20
Almonds, soft shell	18@20
Peanuts, California	5@6
Peanuts, Eastern	7½@9
Walnuts, No. 1 softshells	14@15
Walnuts, hardshells	10@12

Honey

Honey, comb, frames	10@15
White strained, per lb	5@5½
Amber	4@5
Beeswax	23@25

Hay.

Barley, new	8@12
Alfalfa, local new	$10@11.50
Alfalfa, no thorn	10@11.50
Wheat, new	10.00@11.00
Tame Oat, new	$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.35@1.40
Barley	$1.00@1.02½
Corn	1.25@1.35

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	$1.30
Feed Corn Meal	$1.55
Middlings	1.40
Wheat	$1.65@1.70
Cracked Corn	$1.50
Corn	$1.45
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

San Francisco Markets.

San Francisco, Sept. 13, 1905.

Dairy.

The supply of butter has materially increased, but with the precentage of fancy small, the market maintains a steady tone at practically the same quotations as last week. Storage is being rapidly disposed of, which prevents any immediate increase.

BUTTER—Per lb:

Creamery, fancy	26 @27
Creamery, good to choice	24 @25
Dairy, choice	21 @23
Store	17 @18

There is an increased demand for cheese, giving higher quotations and a firm feeling to the market.

CHEESE—Per lb:

Cal. Creamery, mild, new, extra	12½ 14
Do, mild new, choice	10 @11
Young America	12½@13½
Eastern	15 @17

Eggs.

There is marked activity in the egg market and under light supply quotations have materially increased.

EGGS—Per doz:

Ranch, selected large	35 @36
Ranch, good to fancy	30 @33
Store	Nominal
California storage	25 @27
Eastern, extra	25 @26
Eastern, firsts	22 @24
Eastern, seconds	20 @21

Poultry.

There is an upward tendency in the poultry market with quotations somewhat higher.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $5.50@7; Fryers, $3.50@4.50; Broilers, $2.50@3.50; Hens, small, $4.50@5.50; large, $6@7; Live Turkeys, per lb., 19@22c; Spring Turkeys, 22@24c; Ducks, old, $4.50@5.50; young, $4.50@6.50; Geese, per pair, $2; Goslings, $2@2.25; Pigeons, per doz, old, $1.25@1.50; young Pigeons, $1.75@2.25.

Fresh Fruits.

Apples, per box, fancy, $1@1.35; common to choice, 40@75c; Crabapples, per small box, 75@85c; large, $1.65@1.85.

Figs—Per box, Black, 40@85c, as to size of package; White, 25@50c.

Pears—Per box, Bartlett, 75c@$1.75; other varieties, per box, 35@75c.

Peaches—Per small box, 35@65c; carrier, 50@75c; open boxes, 50c@$1.25.

Plums and Prunes—Per small box or crate, 50@85c, as to variety; open boxes, 65c@$1.25.

Quinces—Per box, 40@60c.

Table Grapes—Per box or crate, Seedless, 50@75c; Sweetwater, 40@50c; Muscats, 40@80c; Blacks, 35@65c; Tokays, 65c@$1; Isabellas, 65@90c; open boxes, 50c@$1.25, as to variety.

Wine Grapes—Per ton, Zinfandel, $20@24.

Pomegranates—Per small box, $1.

Cantaloupes—Per crate, 50c@$1.25; Watermelons, per doz, $1@3; Nutmeg Melons, per box, 25@50c.

Blackberries—Per chest, $2@3.50.

Raspberries—Per chest, $5@7.

Strawberries—Per chest, Longworths, $5@7; large varieties, $3@5; Santa Clara, $6@8.

Huckleberries—Per lb: 4@6c.

CITRUS FRUITS—Per box: Oranges, Valencias, $2.50@4.50; Lemons, $2.50@4.50; Limes, $5@6; Grapefruit, per box, $1.75@2.75.

Vegetables.

VEGETABLES—Tomatoes, per box, 25@65c; Green Peppers, per box, Chile, 25@50c; do Bell, 25@50c; Okra, per box, 25@50c; Beans, per lb, Green, 2@2½c; do, Wax, 2@2½c; Lima, 2@3c; Garden Peas, per lb, 3@4c; Cucumbers per box, 25@40c; Summer Squash, per box, 30@40c; Egg Plant, per box, 40@60c; Garlic, per lb, 5@5½c; Green Corn, per sk, 50c@$1.25; per crate, $1@$1.25; Marrowfat Squash, per ton, $15@20.

POTATOES—Per ctl: River Burbanks, 50@70c; Salinas Burbanks, 85c@1.10; Early Rose, nominal; Garnet Chile, nominal; Sweet Potatoes, River, $1@1.35; Merced, $1.50@1.65.

ONIONS—Per sk, Yellow, 65@90c.

Dried Fruits.

The high prices prevailing for dried fruits have checked the demand to some extent but dealers are holding firm and the general market maintains strong tone at firmly held rates. Prunes are strong with offerings scarce.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

Honey and Beeswax.

HONEY—New Crop, Comb, per lb., 10@11c; Extracted, Water White, 6@6½c; Light Amber, 5@5½c; Dark Amber, 3@4c.

BEESWAX—Per lb, 26@28c.

Hops.

The price of desirable old crop is nominal at 14@16c per lb., according to quality.

Beans and Seeds.

BEANS—Prices per ctl. for sound selections; Large White, $2.60@2.85; small do, $3@3.75; Pea, $3.25; Limas, $5.50@5.75; Red, $6.50@8; Pink, fancy, $3.50@3.75; recleaned, ordinary to choice, $2@2.50; Bayos, $4@4.25; Blackeyes, $3.75@4; Red Kidneys, $4@4.50; Horse Beans, $1.85@2. Rain-damaged lots of all descriptions offering from 50c to $2 a cental below foregoing figures, according to condition.

DRIED PEAS—Prices per ctl: Niles $2@2.25; Green, nominal; Field, $1.75@$2.25.

Live Stock.

CATTLE—No. 1 Steers, 6½c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5@5¼c; second quality, 4¼@4¾c; third quality, 4c; Thin Cows and Heifers, 3@4c, Bulls and Stags, 2@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3@3½c, gross weight.

LAMBS—Suckling, $2.50@3 per head, or 4¼@4¾ per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs., 5½c; 130 to 250 lbs., 5¾c; 250 to 350 lbs., 5@5½c rough heavy, 4@4½c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $9@14; Wheat and Oat, $9@12.50; Oat, $6.50@11.50; Barley, $7@9; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6..

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 25@40c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $22.50@23.50.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@29.

GROUND BARLEY—Per ton, $21@23.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

Flour and Cereals.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice, No. 1 Feed, $1@1.03¾; some fancy grades up to $1.05; common to fair, 95@98¾c; inferior grades, 85@93¾; Shipping and Brewing, $1.07½@1.10; Chevalier, nominal.

OATS—Good to choice White, nominal; Red, $1.35@1.42½ for choice to fancy; $1.15@1.32½ for common to fair; Black, for seed, $1.40.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.50.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small do, $1.55@1.62½; White, $1.37½@1.42½; Eastern, Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.40.

CITRUS MARKETS

The sales of oranges continue most satisfactory, though all prices reached at present are hardly equal to those of a few weeks ago. The highest noted during the past week has been in the neighborhood of $7, but that only on a few boxes. Some sales of indifferent fruit run as low as $1.95.

New York.

The total offerings at Monday's sales were four cars. Prices on fancy fruit were, if anything, lower than formerly, the highest obtained during the day being $6.45. The lemon market continued favorable, the top price of the day being $7.37 for 360 size, one car selling at that figure. Averages secured were, fancy, Old Mission, $6.29; choice, $5.38; Blue Seal, A. C. G. Ex., $4.95; California Sunshine, xf, Redlands, $4.30; Standards, O G C A, Redlands, $3.50. Grapefruit ranged from .50 per box up to $2.85. Lemons, Leffingwell, LLL, xf, $7.37; Leffingwell, EEE, averaged to $5.25.

Three cars oranges sold and one car lemons sold at Wednesday's auction, but little interest being displayed by buyers. Weather was unfavorable. Market easy. Valencia averages were: Blue C, xf, Riverside, $4.10; Red C, xc, Riverside, $3.50; Halo, fy, $4.25. In lemons, Rialto Girl, $6.12 was the highest price reached with an average for the car of $5.88.

Only one car of oranges sold at Wednesday's auction. It was a fine car of Old Missions, running from $4 to $6.95.

Boston.

One car Valencia oranges and one car of lemons were sold on Monday, while at the same time eleven cars of deciduous fruits sold. The oranges commanded a range of $3.30 to $5.15. Lemons brought $3.40 to $6.30.

Tuesday's auction showed a decline of ten to fifteen cents. Only one car of Valencia oranges were sold. Price ranged from $2.75 to $4.00 per box.

Market was somewhat easier, two cars of Valencia oranges being offered. They ranged from $2.50 to $4.60 per box. One car of California lemons sold from $4.35 to $6.25, but few reaching the outside figure. Little grapefruit was sold, all bringing less than $2.

GREEN DECIDUOUS FRUITS.

Sales in eastern markets continue remunerative. Seven cars in Chicago sold on Tuesday for from $1059 to $1340 per car.

In New York sales of Lodi grapes aggregated $1615, and another $1634.

Averages prices on boxes in Chicago on Tuesday were: Salways, 45 cents; Bartletts, $1.90; Black Prunes, 60c; Muscats, 80c; Tokays, $1.32; Kelseys, 90c.

The poor cows in our dairy herds should find their way to the butcher's block, and those that are worthy of a place in our herds should have the most considerate care. Instead of the 125 pound cow, they should give place to cows that will produce at least 250 pounds.

The weather and crop conditions for the week ending September 11, are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—Nearly normal weather conditions prevailed throughout the State during the week. High fogs were frequent in the coast sections and light rain fell in San Francisco and vicinity Sunday night and this (Monday) morning.

Hop picking continues and will be completed in some sections this week; the yield is reported average in most of the yards in the Wheatland district and very good in Sonoma county and other places. Bean harvest is well under way and the outlook continues good for a large crop in many sections, in Lake county the yield is quite satisfactory and large quantities are being canned. Sugar beets are above average in the south, but rather light in the central section. The fourth crop of alfalfa is nearly ready for harvest in the San Joaquin valley. Grain threshing, sacking and shipping are still in progress in a few places and hay baling is not quite completed. Corn and potatoes are doing well. Dry feed is still plentiful in most sections and cattle are in good condition.

Grape harvest is progressing rapidly and heavy shipments continue. Raisin making is well under way in the San Joaquin valley, where the crop is reported lighter than usual, but the grapes are of excellent quality. Wine grapes are yielding very well and large quantities are going to the wineries. Deciduous fruits are nearly all gathered and drying is progressing. Apples are reported in unusually good condition and a large crop is probable. Oranges give indications of the largest crop for several years. Guavas in Southern California are yielding an enormous crop. Walnuts will be of good quality, but the yield will fall below average.

Eureka Summary.—Cloudy and foggy along the coast; unusually dry and warm in the interior. Threshing oats practically finished. Peas fair; potatoes light; other vegetables abundant. Apples are being marketed in moderate quantities.

Los Angeles Summary.—Much cooler week benefited crops. Citrus fruits are progressing nicely. Some dry plowing is going on. Threshing is about finished; in some localities the yield is good. Irrigation water is plentiful.

The R. F. Wilson Mfg. Works of Stockton, whose advertisement appears in this issue, is one of the old reliable firms of the San Joaquin valley and we take pleasure in noting its prosperity. Only this week the factory has completed a contract for the Woodbridge Vineyard Association which called for sixty-five tanks with a capacity of 550,000 gallons. Mr. Wilson is one of the pioneer manufacturers of the State and is in touch with the lumber trade of the coast in a way which enables the manufacture of tanks and windmills at rock bottom figures. Transportation is also a factor for his factory practically on the Stockton water front, making water transportation thus giving lowest posible cost. Write the company for information

BREEDING UP.

The astonishingly rapid rate at which livetock improvement can be made by the use of pure bred sires has given the common farmer and stock raiser the advantage of a cheap start and upon a basis of profit from the beginning. It is this breeding up or grading up that has been the foundation of the universal live stock improvement that has been going on throughout the country for years.—Holstein-Fresian Register.

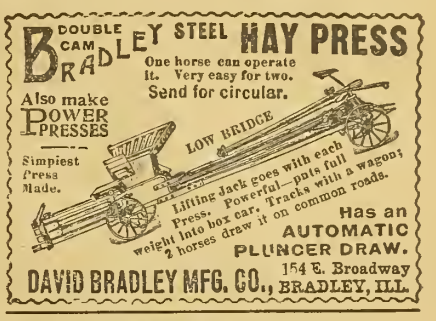
Do not let an animal run down before you begin to think about treating it. Constant care and attention are amply repaid in lack of sickness.

COALS TO NEWCASTLE.

One of the advantages of the new San Pedro and Los Angeles railroad to this section was made apparent last week when Mr. A. H. Snow, Utah's famous peach man, was offered an extraordinary price for his peaches by a buyer for the Los Angeles market. The Los Angeles man insisted that he wanted twelve to fifteen carloads of Utah peaches, claiming that the quality and flavor of the Utah article was superior to the California product. He also stated that Los Angeles is prepared to use seven carloads of Utah potatoes daily. Now is the time for Utah farmers and horticulturists to get in and capture this market.

* * *

The above is from the Desert Farmer and reminds us that it is in order to ask why don't California grow its own spuds and peaches. We don't blame the Utah farmers for carrying their "coals" when they can get a good market, but the idea that our own growers will let produce—especially peaches and potatoes—come from across the range is galling.



IN WOMAN'S BREAST

ANY LUMP IS CANCER

Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.

THREE PHYSICIANS OFFER $1000

If They Fail to Cure Any Cancer

Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.

Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.

Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.

Please Send to Some One with Cancer

When writing advertisers mention Cultivator.

Santa Fe

Back East Excursions

ROUND TRIP TICKETS TO

Chicago	$ 72 50
St. Louis	67 50
Memphis	67 50
New Orleans	67 50
Kansas City	60 00
Omaha	60 00
St. Paul	70 00
Minneapolis	70 00
Duluth	72 50
Fort Worth	60 00
New York	108 50
Boston	109 50
Philadelphia	107 50
Baltimore	107 00
Washington D. C.	107.00

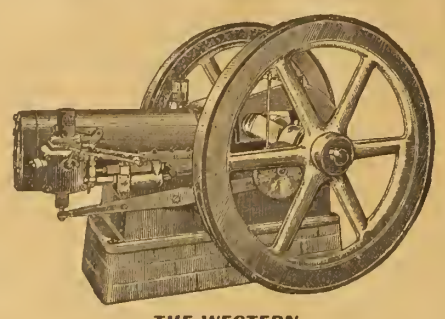
ON SALE
August 15-16-24-25.
September 7 8-9-10-11-16-17.
Good for 90 days.

DENVER AND RETURN, $55.00
ON SALE
August 10-11-12-30-31.
Good for 40 days.

These tickets are all honored on
The California Limited

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST

MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P.

CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

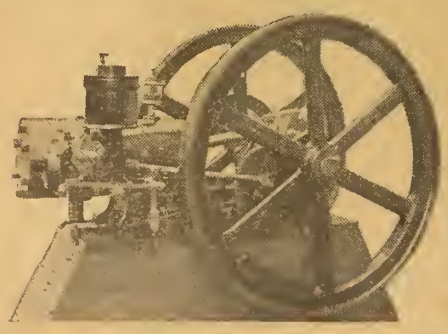
Western Gas Engine Co.

908 to 932 No. Main St., Los Angeles, Cal.

SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

PROGRESS GAS ENGINES



Are constructed upon scientific principles after the most approved designs for steady work. It is an up-to-date engine and fully guaranteed. The cost of operating our 4½ horse power engine working at full speed is about 35 cents a day of ten hours.

Our special features are: High Compression, Positive Inlet Valve, Cylinder Bores Reamed, Sparker is of Hammer Break Type, Economy of Electric Battery. Write for descriptive Pamphlet and Price List.

Complete Pumping Plants Furnished

Progress Gas Engine Company

Telephone Main 5165 — 951 N. Main St., Los Angeles, Cal.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.

313 N. LOS ANGELES ST., LOS ANGELES, CAL.

Write for samples, prices and booklet

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

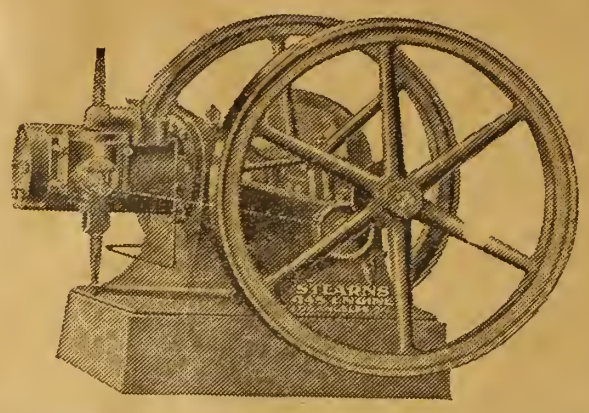
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

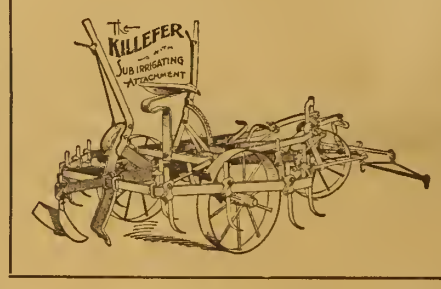
PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. — Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants

When writing advertisers mention Cultivator.

California Cultivator

LOS ANGELES SAN FRANCISCO

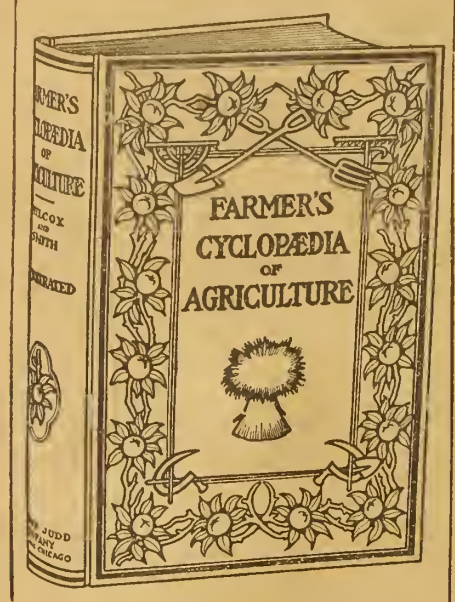
SEPTEMBER 22, 1905

THE GOLDEN ORANGE HARVEST IN A RIVERSIDE ORCHARD.

There are in California over 75,000 acres in citrus groves The product of these groves is something in excess of 30,000 carloads annually, and to transport this great quantity of fruit to the market a tribute of over ten millions of dollars is annually paid to the railroads, and probably nearly an equal amount is paid to California labor in growing and packing. During the heavier shipping season, from the one community of Riverside alone, three trainloads per day are sent out.

CIROULATION EXCEEDING 10,500

Farmer's Cyclopedia of Agriculture



A Compendium of Agricultural Science and Practice on Farm, Orchard and Garden Crops, the Feeding and Diseases of Farm Animals, Dairy Farming, and Poultry in the United States and Canada

Authors: EARLEY VERNON WILCOX, Ph. D.
CLARENCE BEAMAN SMITH, M. S.
Assistant Editors in the Office of Experiment Stations, United States Dept. of Agriculture

The World Moves

and whoever would not be left behind must lay hold on every means that enables him to move with it. As a basis of one's efforts nothing is more essential than the possession of a good work of reference

Adapted to the Conditions Peculiar to California and Adjoining States

The Farmer's Cyclopedia embodies in its many articles, most of the results of years of painstaking work at the California and neighboring State Agricultural Experiment Stations. It is thus, in effect, both a digest of local and state experience, and a compendium of general knowledge, all of which will prove of indispensable helpfulness to everyone in this section.

The Last Twenty Years of Progress

have measured more changes and recorded more advances in every branch of agricultural science than have been achieved during the hundred years preceding. During all these years no reference book adequately covering the subject has been issued.

The plan of this work is most comprehensive. Every article has received the most careful preparation at the hands of the authors, who have enlisted the co-operation of the highest authorities in the various departments. The greatest educators of the world, representing every branch of agriculture, here unite in one immense faculty to present directly and plainly the pertinent facts of their specialties. Every statement is authoritative and absolutely reliable.

If you wish to know about field crops, garden vegetables, fruits, nuts and other economic plants, farm animals, dairy farming, poultry, also manures, fertilizers, principles of feeding, soils, drainage, irrigation, spraying, veterinary medicines, etc, etc, it is here. Everything concerning farm matters is treated with great thoroughness, though without undue fullness. We claim for it the unique distinction of presenting for the first time, in a carefully arranged and perfeetly accessible form, an accurate summary of every subject of interest to farmers, etc.

Over 6000 Topics Indexed
A Wealth of Illustrations

An important part of this work is its very complete and elaborate index, with cross-references under both scientific and eommon names, so that any information wanted can be found at once. There are between 6000 and 7000 topics covered in these references, making the most perfect Index to agriculture ever attempted. It contains 700 royal octavo pages (9½ x 7 inches) and nearly 500 superb half-tone and other original illustrations. Type, paper, printing and binding are all in the highest style of the bookmaker's art, worthy alike of the well-qualified authors, the enterprising publishers, and the industry of agriculture.

PRICE IN HALF MOROCCO, $4.50

To Cultivator readers we make this proposition:—Fill out and sign the enclosed coupon and mail to this office and the book will be delivered postpaid at once and your Cultivator subscription advanced one year.

CUT OUT AND MAIL THIS COUPON AT ONCE

CULTIVATOR PUB. CO., LOS ANGELES, CAL.

Please enter my name for one year (NEW OR RENEWAL) and send me the Farmer's Cyclopedia of Agriculture, half morocco. For both together the price to be $5.00, which I agree to pay as follows: $1.00 on the first day of next month and $1.00 on the first of each of the succeeding four months. Until the $5 is paid in full title to the Cyclopedia to be vested in you.

NAME.....

P. O..... STATE

We Can Save You More Money

Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building
Phones: Home 2367; Sunset Red 2811

Shops and Yards: 860 North Main St.
Phones: Home 1088; Sunset Main 1088

Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.

Union Bank of Savings

RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits

4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.

"Johnny, Git Your Gun"

At **HOEGEE'S**

Our bran new catalogue will tell you all about it. Address Dept. A.

CANVAS IRRIGATING HOSE

1¾, 2½, 4, 9
11, 13 Inch

COSTS LITTLE
LASTS LONG

KHAKI SUITS Faultless Fit To Order $4.50
Shtd for Self-Measuring Blank

The Wm. H. Hoegee Company, Inc.

Phones—Exchange 87

138-142 S. Main St, Los Angeles

When writing advertisers mention Cultivator.

SHASTA ROUTE is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

REDUCTION IN RATES—

$28.00 ROUND TRIP

Exposition closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 12 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 22, 1905 Subscription $1 a Year

Methods for Controlling the Pear Blight

Some Suggestions for Prevention and Eradication of This Dreaded Disease of the Pear Orchards

Probably one of the most destructive diseases which has ever affected the fruit industry of California is the pear blight, or "fire" blight, or zymotic. A peculiarity of the disease, however, is that it is not as regular as some other diseases, being more virulent some seasons than others. In addition, no disease has been found more impossible to reach by remedies than this, notwithstanding the great amount of study which has been given to it by specialists. In fact, practically the only preventive or check which may be given to it is from pruning or cutting out the diseased wood and carefully burning every particle which may contain bacteria. For bacteria it has been proved to be and it has also been found that its means of greatest distribution has been the common honey bee. The bacteria finds its easiest lodgment in the blossoms of the tree. Also in the sweet honey-dew substance which is exuded from the bark to the diseased branches. From the blossoms the disease may extend downward into the branches or run in from lateral fruit spurs so as to do a large amount of damage by the girdling of limbs. When this is done the leaves die because of the prevention of sap reaching them, thus giving from the blackened leaves the appearance of fire having passed through the orchard, whence the name "fire" blight.

The closest study given to this disease has been by Dr. Merton B. Waite, of the U. S. Department of Agriculture, and from him many quotations have been made in which he has given suggestions as to prevention and, so far as possible, cure of trees affected by this disease. More recently, one of the investigators of the Georgia Experiment Station, W. H. Starnes, has issued a bulletin from which we make certain extracts. Some of these do not apply to California conditions, but from them may be suggestions which may give a lesson from the experiments of this investigator. Hence, we give liberal extracts from the bulletin.

For more general information, we quote first regarding the different varieties of blight which have ben studied by Prof. Starnes, but the last mentioned, or number five, is the one which has caused so much loss to California growers:

To the average fruit grower blight is blight—just as "eggs is eggs." But the fact remains that there are at least five different forms or manifestations that might properly fall under the general term pear blight—two of them affecting the leaf, two the twig, and one the entire tree. One of these is produced by a fungus, three by insects and one by a bacterium—only the latter proving fatal. A detailed description of each would consume too much space, so the following brief enumeration must suffice.

(1). **Pear Leaf Blight**—A fungus (Entomosporium maculatum) affecting the leaf. This may be controlled by spraying with a 4-8-50 preparation of Bordeau mixture.

2. **Pear Leaf Blister.**—An insect in the form of an invisible mite (Phytoptus pyri).

3. **Twig Blight (a).**—An insect, Psylla pyricola, or Pear Tree Psylla, slightly resembling the common aphis or plant louse.

4. **Twig Blight (b)**—Also an insect, Xyloborus pyri, or Pear Blight Beetle.

5. **Zymotic Blight.**—Bacillus amylivorus, or the blight of fermentation—also termed fire blight by reason of its virulence. This is the king of blights beside which all other forms are comparatively inoffensive. In character it is, as stated, virulent and aftal, and the utter failure of all remedies except preventive ones, heretofore devised and tested, renders it a scourge to be indeed dreaded. It seems to be universally distributed over the country, and is especially devastating in the South. It has so discouraged our citizens that few growers have planted commercial pear orchards in Georgia of late years, while the pear, even as a garden fruit, is fast disappearing. For a long time the LeConte growers of South Georgia contended that this variety was exempt from zymotic blight, but as far back as 1889 began to realize their mistake. It is now acknowledged that the LeConte will blight as badly as most of the other standard varieties.

Regarding variety most resistant, Prof. Starnes says:

No variety seems absolutely to resist, although Seckel is probably least subject to injury, with Keiffer a good second. Bartlett and Idaho suffer most. As moisture and succulence seem to favor the propagation and penetration of the germ, it may be generally stated that those varieties containing the most water are the greatest sufferers. Hence it is that rapidly-growing varieties or individuals of any variety making a quick abnormal growth of succulent wood are peculiarly susceptible.

The following steps, which are suggested in the bulletin, are given for what they are worth, but, of course, the one on cultivation and especially the one on sodding, number three, are of no value in California other than to show the necessity of not spreading the bacteria by causing the dust and spores or bacteria, rather, to float around the orchard, especially during blossoming time.

Irrigation Without Cost by Tapping the San Joaquin River near Stockton.

1. **Fertilization**—In fertilizing, avoid lot manure or any organic form of nitrogen. Employ a moderate amount of commercial fertilzer only, not very rich in nitrogen, in order that rapid or excessive growth of wood may be avoided. A short-joined, slow growth is preferable, especially after the first year or two.

2. **Cultivation**—Cultivate no more than is absolutely necessary and not at all during the blooming period. It is better to lose some soil moisture than to "stir up the bacilli" and give them an opportunity to be transferred to the tender blossom terminals.

3. **Sodding**—After the orchard is four or five years old and beginning to bear profitably, seed down permanently in some grass adapted to the locality.

4. **Amputation**—As the bacteria chiefly enter through the blossoms and follow the tender shoots downward or inward toward the larger limbs and trunk, it is necessary to cut back, as the malady becomes apparent, so far in advance of its progress that only the sound or unaffected tissue will be left.

5. **Pruning**—It is this feaure as developed by Dr. Waite, more than in all of the other preventive measures taken together, that our hopes of controlling the blight rests: In brief, the Waite method consists of two steps: (1) Formative Pruning—changing the natural tendency of the young tree through the development of a central leader to assume an "excurrent" or pyramidal form, like a spruce by cutting out the leader and thus forcing the development of a "delinquescent" or branching form—each of the limbs possessing practically equal size and prominence. The purpose of the Waite method of pruning is this: Should blight attack the main trunk of a pear having the natural or excurrent form, the entire tree will be sacrificed, or at least fearfully mutilated by cutting out the leader, whereas, if any one of the main branches has to be destroyed when the delinquescent form is given the tree, its symmetry is not materially affected. (2) Spur Removal—taking off those spurs developing fruit buds (as soon as they become apparent in early spring) that happen to grow directly from any one of the main limbs of the tree after it is shaped by the Waite method of pruning, leaving only the fruit spurs on the terminals of the outer branches. This is to confine the point of penetration of the

(Continued on Page 286)

California Horticulturally

By John Isaac, Sacramento, Cal.

THE STATE FAIR.

The State fair last year had degenerated into a pure horse show and the agriculturists were conspicuous by their absence. On the fair grounds the chief attractions were the races, the live stock taking a second place, while the pavilion was used only for a horse show. Agriculture, horticulture and all else were largely ignored. This aroused such a storm of criticism all over the State, that the attention of the legislature was called to it and it was with some difficulty that a sufficient appropriation could be obtained to carry it on again. The new management, profiting by the mistakes of the past, has given a good old fashioned fair this year, in which the agricultural and horticultural products of the State were a prominent feature, while not ignoring other products. Ten counties were represented along the exhibitors, all Northern Californian, and the display of fruit and farm products was a very creditable one indeed. Besides these there were good displays of minerals by the mining counties, of agricultural machinery, while special features every evening at the Pavilion added much to the attractiveness of the whole. There were some good running events, in spite of the elimination of the sporting element, while the stock exhibit was one of the best ever shown here. Altogether the State fair this year reflects great credit on the new management and on Mr. Albert Lindley, the secretary, for his first attempt. With the experience gained from this, Mr. Lindley will make the next State fair one to be remembered, and he has already formulated plans for this purpose. Efforts will be made to have all the counties possible represented and make it distinctively an agricultural fair, in which all branches and all sections will have a fair representation, and it will be shown at a glance what California can do.

* * *

NEW HORTICULTURAL COMMISSIONS.

Strong efforts are being made to get county horticultural commissions organized in some of the northern counties which have heretofore neglected this matter. This is being done largely in order to get somebody with proper authority to undertake the work of fighting the pear blight. The work of Professors Waite and Smith can only be educational, they can show growers how it ought to be done, but there their power ends. When this is done, however, the county board of horticultural commissioners can compel the recalcitrant growers to properly do the work and so prevent their more energetic neighbors from becoming again infested when they have once extirpated the blight in their orchards. Yolo county growers have become alive to the necessity for a strong board for this purpose and a petition signed by many of the leading orchardists of that county has been presented to the supervisors asking for the appointment of the necessary board. Several of the northern counties have been very negligent in this respect, but the necessity of active co-operation, if they would save one of the greatest fruit industries of their sections, has forced upon them the necessity for doing something, and it is probable that we shall soon have as active boards of horticultural commissioners in the north as there are now in the south.

* * *

NEXT FRUIT GROWERS' CONVENTION.

It is not yet decided where the next State Fruit Growers' Convention, the thirty-first, will be held, but it will probably be either at Santa Rosa or Hanford. Strong efforts are being made in both places to get it. The date for holding it will probably be the first week in December. Efforts will be made to make this one of the best conventions ever held in the State.

* * *

A NEW LOCATION FOR SANTA CLARA COUNTY.

The Department of Commerce and Labor, at Washington, which by the way, is in charge of Victor H. Metcalf, a Californian, is having a good deal of fun poked at it on account of its peculiar idea of California geography. In the Daily Consular and Trade Report issued on August 31st, it makes the following startling assertion: "Much the larger portion of the prune supply is from the southern part of California, where climatic peculiarities are extremely favorable for its production. In Santa Clara county alone there are 3,700,000 trees growing on 37,000 acres—100 to the acre." The question asked in this end of the State is—since when was Santa Clara county removed to Southern California. Eastern people have heard so much of Southern California that they labor under the idea that all good things come from the south. But even worse than this is a paper on new citrus creations in the last year book, which gives an account of the new hardy orange, lately invented by the Department of Agriculture, which has nothing to recommend it except that it will stand a climate as rigorous as that of Washington itself. In this paper the writers state that "It is also probable that they can be grown in parts of Washington, Oregon and Northern California." Just think of classifying Northern California with Washington and Oregon and offering us an orange which isn't fit to eat, when we grow the finest oranges on earth, unexcelled by any outside of Southern California. They need some one who knows more about California in Washington.

GRANGE MEETING.

Tulare grange convened in stated session at its hall on Saturady the 16th.

The special committee to consider subjects to be presented, by the representatives of the grange, to the State Grange, which will convene in the city of Napa on October 3d next, reported in favor of the following:

"We recommend the National Good Roads Law as prepared by the National Grange, and introduced in the House of Representatives.

We recommend a revision of the revenue laws of California by which ability to pay shall be the test of obligation to do so. By which realty shall be relieved of its, now, disproportionate rate of taxation. By which the State shall derive its revenue from other sources than direct taxation of real and personal property. By which the recipient of the income not derived from property taxed, shall pay his equitable prorata of taxation. By which a portion of the State's revenue shall be raised by indirect taxation.

We recommend State legislation for the equitable distribution of water for irrigation. For insurance against fire by the State. For life insurance by the Federal Government.

We believe the "Torren's" system of land registration is one of the most meritorious acts of legislation ever enacted in California. Justice to the land owner and purchaser, alike requires it should be enforced with all the powers of the State. Its, heretofore, non-enforcement is a miscarriage of an equitable and just law in this State.

Each of these subjects was discussed separately and a careful consideration given to it, and each approved by itself and all approved as a whole. These several subjects have been considered, studied and approved by subordinate State and National granges, except the subjects of State fire insurance and Federal life insurance. These, being new subjects, received more than usual consideration; but it was conceded, on all sides, that in the well doing and well being of civilized life, efficient fire and life insurance is one of the most essential necessities. In no department in the administration of public utilities are greater wrongs perpetrated than in those of fire and life insurance; by the payment of undue commissions; by the use, by the officers of the companies, for their own speculative purposes, of the company funds; by the payment to themselves of pensions and enormous salaries—salaries many times out of proportion to what any one man can equitably earn; the funds of the companies are speculated and juggled with to the detriment of the insured. No such culpable use of funds and no such exorbitant salaries are allowed, or thought of, in State or Federal administration, and this grange greatly regrets to say, in its judgment, the abuse will not be remedied until fire and life insurance are departments of our State and Federal Governments. Tulare Grange asks the careful consideration of a thoughtful public to this subject.

Mr. and Mrs. F. H. Styles were elected alternates to the State Grange.—J. T., Tulare, Cal.

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS

411 Market St. San Francisco, Cal.

When writing advertisers mention Cultivator.

THE "BOSS"

TREE PROTECTOR

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING CO.,

2124 Willow Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash

T. W. JACKSON CO., 125 California Street SAN FRANCISCO

When writing advertisers mention Cultivator.

MAIERS' WALNUT HULLER

One man can do the work of twenty.

Can be moved in the orchard and worked without water.

By means of wire brushes which are set at an angle facing sharp concave cross bars, the whole burr is eaten off and the nut is perfectly clean and sightly. A simple, practical walnut huller. Pat. July 7, 1903.

In successful operation three years.

For particulars and prices write to

G. F. Maiers, Goleta, Cal.

When writing advertisers mention Cultivator

DEEP WELL PUMPS
SHALLOW WELL AND POWER PUMPS
OAK TANNED CUP LEATHERS.
A. T. AMES GALT, CALIF.

Conducted by PROF. A. J. COOK, Claremont

BEEKEEPING FOR BEGINNERS.

We have already discussed the importance of great care in marketing honey. Any effort to secure neatness is well expended. Care in grading is most wise. "An honest pack" here, as in all marketing, pays a tremendous profit. Facing a crate with fine, fully capped comb and filling back with dark imperfectly capped sections will never pay. The beekeeper, like any other producer, is most happy and to be congratulated, whose reputation is secure, whose goods are never questioned, for his grading is thorough and every package is honest.

* * *

Care of Honey.—As I have already suggested, the time to sell honey, or any product, is as soon as it is ready, and we can attend to the marketing. We have seen that this is preeminently true of honey.

Yet, in some cases, we can not do this and must hold. In this case, we do not follow the fruit grower, who uses the cellar or refrigerator. He wishes to cool his produce as soon as possible and hold it at the low temperature, to protect against decay. In case of honey, we wish to avoid cold and damp. The cold makes the comb brittle and causes the moisture to condense on the combs, which is further increased in a damp room like a cellar. The honey, even comb honey, will absorb moisture and be seriously injured. Thus honey should, when possible, be kept in a warm, dry room, if for any reason it is desirable to hold it over.

* * *

Gentle Bees.—We have long known of the gentle, amiable disposition of Carniolan bees. These are black bees, much like our common black, or German bees, though they are slightly larger, and each ring of the abdomen of the workers is circled, behind, with whitish hairs. This may be obscure, but when well marked it makes these bees conspicuously beautiful. Like the black bees, the Carniolan race caps the comb with very white cappings, so that the honey is finer in appearance than is that of the Italians, or other yellow races. The Carniolans also build very many queen cells at time of swarming. They are without doubt very desirable bees, but not equal, as to quantity of honey, with the yellow bees.

* * *

Other Quiet Races of Bees.—Above we noted the amiable traits of the Carniolan bees. While looking over the bees already mentioned on the grounds of the Department of Agriculture, with Dr. Phillips, he opened a hive with a Caucasian queen. They were large and fine of form, but shining black in color. They, like the Carniolan bees, seem clearly to be a distinct race of the black, or Erman type of bees. I think that they are beyond question, the most quiet or amiable bees that I have ever examined, although we opened the hive without smoke, and handled the bees roughly, they made no move at all to sting us. We brushed them rudely with the hand, and even pressed them in our fingers with no effect to raise their anger. Here then, we have what Burbank would greatly prize, a variety or natural race that possesses a very desirable trait. Here then, we have just the foundation for success, and will hope that Dr. Phillips will have as good fortune in his breeding experiments with these bees as Burbank has had with his lilies, his plums and his poppies. Indeed, bees are more like plants than are most animals. We can rear them with great rapidity and can get results quickly, so that many tests can be made in a single season. Already Dr. Phillips is producing queens in great numbers. These he takes in small nucleus hives over to Arlington, where he hopes to control mating.

With animals, as with plants, if we take those from widely different places, which as a result have been subject to very varied climatic conditions, change them to other habitat, and cross with those of different habits, instincts and temperment, we may surely expect interesting variations, and it will be surprising indeed, if in countless numbers of queens, Prof. Phillips does not get some that will, like Burbank's Shasta Daisy, combine marvelous qualities of temperament and activity, and become as phenomenal among bees as the great handsome daisy is among flowers.

* * *

The honey crop the present season is light in nearly all the States. Michigan is the only State that claims anything like a full or average product. California, thanks to the unusual cold of the season, offers scarce a third of a crop. All this makes it possible to secure a good price. All should hold for high figures this season.

Black Scale.

Fumigation is now in full swing in such citrus orchards as are in need of this treatment. Incidental to this operation the question is being continually brought up as to the advisability of fumigating an orchard in which the scutellista is colonized. Parties interested from different standpoints naturally hold opposite views; one side claiming it to be an entomological crime to destroy the parasite, the other equally sure that fumigation does not affect the scutellista. Broadly speaking, it is a fallacy to state that gas of sufficient density to destroy the black and purple scales has no effect upon such highly organized forms of insect life as the chalcids caught beneath the tent. On the other hand, the fact that the parasite occurs in an orchard—otherwise sufficiently infested with black scale as to make the necessity of washing the fruit this season a foregone conclusion—should not be allowed to stand in the way of prompt fumigation the moment the condition of the scale warrants success.

Black scale occurs on an infinite variety of host plants and the scutellista is so thoroughly distributed in every nook and corner, that it is fair to assume even if every citrus orchard in the county were fumigated simultaneously, there would, now, be no danger of eradicating the fly.

Just why some orchards should need fumigating for black scale while others have, and are being kept commercially clean by the parasite, is a perplexing question, especially so to the party who has to pay the bill. In the opinion of the writer this state of affairs at the present time is due more to the unstable biology of the black scale than to any vagary or inefficiency on the part of scutellista cyanea. The foregoing conclusions are derived from the following observations.

The progress of develpoment on the part of black scale is governed almost entirely by the host plant upon which it is located.

For example: The writer has found numerous full grown, abnormally developed black scale in the full egg stage upon pumpkins that had not been in existence 90 days.

The larvae of the same brood that had located upon the deciduous trees (pears) comprising the orchard in which these same pumpkins were growing, required approximately twelve months to reach this stage of development.

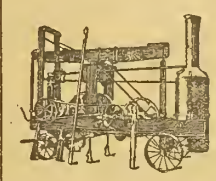
Again: Horse weeds growing in a gulch forty feet away from a citrus orchard were found to be covered with black scale, eighty-one being counted on one weed in a space of sixteen inches, fifty per cent of which contained pupa of scutellista. One hundred and twenty days would average the life of these annual weeds, yet black scale had completed its round of life in this period and such as were not parasitized had hatched their eggs. In the citrus orchard adjoining this weed patch, while black scale were present, it was very difficult at that time to find scutellista in any form.

Further, the progress of the development on the part of black scale even upon the same variety of plant is very materially governed by the condition of the plant. Black scale is very rarely found in exactly the same stage or condition even in adjoining orchards.

Finally, black scale must positively have reached a certain stage or condition—the production of eggs—before scutellista will oviposit upon it.

In the case of scutellista, in common with other insects of this class, copulation takes place immediately after the adults issue. Very soon after coition the females are ready to oviposit, and judging from the actions of similar insects in confinement, the desire to perform this natural function becomes very urgent; perhaps imperative. It is possible that failing to find a host insect in suitable condition, the impregnated female parasite can live a long time, but in the case of scutellista and black scale this is not likely to occur. The parasite in question, visiting a citrus orchard or nursery and finding that, owing to some physiological disturbance of the trees in that particular orchard the scale is not in condition to receive its attention, has simply to fly to some adjoining orchard, or perhaps to some infested wild growth or shade trees to find scale in condition exactly suited to the purpose of reproducing its kind.

This, in my opinion, is the cause of the phenomena of infested spots in otherwise clean orchards and of infested orchards in otherwise clean districts. That the black scale upon these infested trees would eventually be attacked and destroyed I am sure, but before that time arrives the foliage and fruit will become blackened, and the question before the growers is not whether the parasite will be destroyed or otherwise, but whether the cost of washing the fruit and other losses attendant upon this operation will not in the end equal or perhaps exceed the cost of fumigation.—Fred'k Maskew.



WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

When writing advertisers mention Cultivator.

NO OTHER WAY

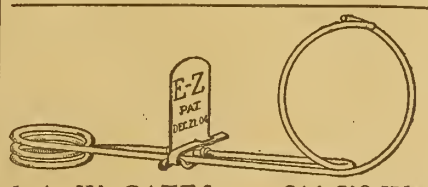
The California Limited Log-Book:

En route San Francisco to Denver, March 30, 1905.

This is my fourth trip to the coast and back, and I have traveled on all the different roads and limited trains but the "California Limited" on the "Santa Fe" has them all skinned in every way, and hereafter there is only one road for me.

FRANK R. POWELL, JR.,
Wichita. Kansas.

SANTA FE IS THE WAY



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Have You Seen the Moline Cars?

The most beautiful family cars on the market.

A carload of Runabouts expected to arrive this week and will be sold at $950.

Call and see them.

Wm. Gregory
602 N. Main St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Strawberries for Profit

By J. C. Ostergard, Burbank, Cal.

There is probably no section in the United States where strawberries can be found ripe, out of doors, every day in the year, but in California. On this account the crop proves very profitable. Money comes in not by fits and starts, as is the case elsewhere, but in a continuous stream. The bulk of the crop comes in the spring, decreasing considerably during the summer months, but a very fair crop is sure to be harvested in the fall, if the field is properly managed. Even during our coldest months some berries are marketed.

Because of continuous crop habit and as there is a large and wide market for this fruit, the trade has assumed large proportions. Its value can only be vaguely guessed at, but it probably runs close to the million dollar mark.

To insure a profitable income from strawberries, a suitable soil and climate is, of course, of the highest importance. A deep, rich, sandy loam is best. As to location, a section where the fogs come up frequently, yet do not linger long, is best. That is to say, the air should neither be too hot and dry nor too cold and damp.

* * *

Their Culture.—The variety known as Brandywine seems to be the favorite in some sections, being a robust plant and a strong grower, with a berry of good size, fine flavor and a brilliant appearance. They continue in the same patch for about three years and then become unprofitable, no matter what care or fertilization may be given. Generally the soil will be found rich enough for the first year, but where the soil is rather light and sandy, a fair amount of stable manure will be in order. About fifty tons to the acre or less, as the soil may seem to require. This should, of course, be applied and plowed in after the ground has been leveled. If there is a lack of humus in the soil, the plant growth will be weak, the berries small and lacking in color. The second and third year well rotted stable or chicken manure may be applied if it seems to be needed. As long as the plants are making a good growth of dark green leaves, fertilization is apt to do more harm than good.

* * *

Profit.—It cannot be said to rank as high as some other crops, but, on the whole, is very satisfactory. The average gross income is about three hundred dollars per acre, of which at least three-fourths goes for expenses; that is, if you hire everything done, pay for water, cultivation and cost of marketing. Of course, in some cases, the profit may be higher, but if so, there will be cases enough where it will be lower than seventy-five dollars per acre.

* * *

SOIL SUITED TO WATER AND MUSKMELONS.

As these valuable fruits can not be grown on the same soil for a period of more than two or three years, even ranches having good sized fields are forced to rent land or discontinue the business. That is a thing a man seems loth to do after he has once gotten onto the ways of raising and marketing melons.

A rich, sandy loam is best suited to the perfect growth of the watermelon. If irrigation can be resorted to the soil need not be over two feet deep. But where there is no water to be had for irrigation, the soil should not be less than four feet deep. In order to insure good results, the deeper the better. When you go out to find a piece of land, take your spade with you and dig holes here and there. Surface indications count for little or nothing. It is the deep soil that is to sustain the plant during the hot weather of the summer months.

* * *

For Muskmelons.—The soil required is the same as for watermelons, excepting that it should be richer and finer. They will not thrive on as sandy land as will watermelons. In short, the soil must be richer and more compact, and yet not be inclined to bake.

* * *

Tomatoes.—That the recent hot spell put an end to the tomato blight, as was suggested in the last number of this paper, has been more particularly verified. While tomatoes may still be seen dying with the disease, it will be noticed that they are the ones that were afflicted before the hot spell.

A year or two ago an eastern agricultural paper contained an article by a tomato grower, wherein he stated that a certain field of tomatoes was suffering heavily with the blight. Adjoining was a mixed field of corn and tomatoes, with no blight present. He simply mentioned the facts in the case without attempting to explain the reason. The editor made no comment, it being evidently a case similar to the one experienced by the young medical practitioner where a certain treatment promptly cured the blacksmith but as promptly killed the tailor. He made a note to the effect that this was one of those mysterious conditions that brought life to a blacksmith but held certain death to a tailor. I am free to confess that I was not at the time able to solve this apparent riddle, but since heat destroys tomato blight, and as it is hotter in a cornfield than in the open, we see at once that it was this increased heat that saved the tomatoes. It may be well to remember this lesson and practice it next year, planting alternate rows of tomatoes and corn, with the tomatoes on the sunny side.

* * *

Tomato Worm.—Nearly every year tomato growers lose a large percentage of their tomatoes by this pest. No remedy has yet been effective. I would suggest to stick four-foot lath into the ground, distance about sixty feet; if this is done, the mocking and butcher birds will be given a perch from where they can see and apprehend the pest.

* * *

Continue to plant winter tomatoes, Early Rose potatoes, peas and beans, but only in the most sheltered sections.

RUBBING IT IN.

"How's things in your division?" asked the weather bureau clerk.

"On the bum," replied the agricultural department official. Every cheap joker in the country is writing us for information about grafting."—Houston Chronicle.

Outlook for Citrus Industry

The Season of the Year Has Something to do with Prices, but Adaptation of Varieties to Location Has More.

In the last issue we referred to the fact that a certain season of the past year had proved almost disastrous in its return for oranges, which was also true of the same months in the year prior. It may be of interest to note the prices which ranged from month to month during the season. To that end we quote below figures which were obtained by the San Antonio Fruit Exchange for its fruit during the season of '03 and '04. While this season is almost a parallel of the past season, so far as figures can be secured at the present time, we do not think that it indicates any invariable rule which can be depended upon every season. The fact that January shows the lowest sales in these two years does not prove that the next year the same will follow. However, the conditions which we noted in the last issue may compel extra heavy shipping or weather conditions may seriously affect fruit at that time.

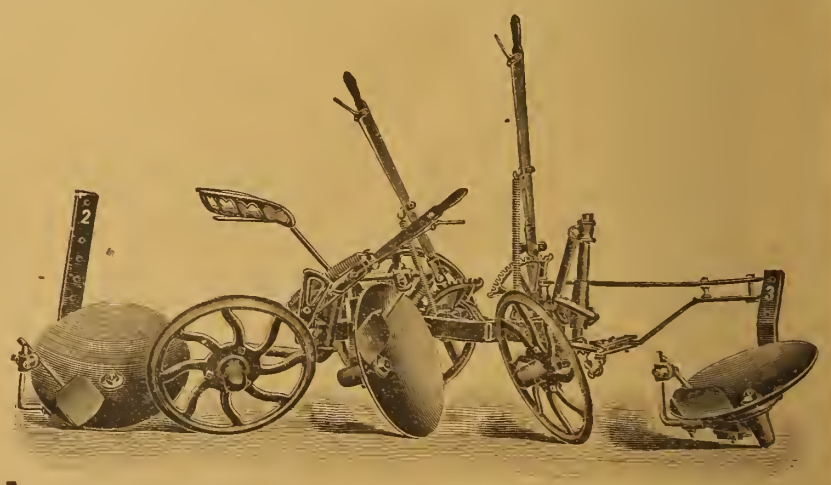
Here are the figures and they may be taken for what they are worth. November navels brought to the San Antonio Fruit Exchange $1.59 per packed box. The returns to the grower would be about thirty-two cents less than that, as is the case in the figures following: December navels brought $1.43; January, $.88; February, $.97; March, $.99; April, $1.12; May, $1.44; June, $1.61.

If anything, this year's figures will show greater difference between June and January shipments in this, that June will be higher. Now, while we note that this is no proof of next year's monthly returns, we do feel that it is an indication which should influence somewhat the grower's actions when his fruit begins to show some indication of dropping during the months of January and February. That is, we believe the grower can well afford to allow some of his fruit to drop during those months rather than glut the market with excessive shipments when it will not carry all the packing houses are compelled sometimes to forward. This holding back at the time and permitting some of the fruit to go on to the ground for fertilizer will probably bring more net returns to the grower and considerably less expenditure for boxes, packing, hauling and freight.

One Ontario grower told us that while his neighbors were forcing off the earlier fruit from orchards which showed a tendency to drop, he held and allowed that which would to drop and marketed his sound fruit later at a higher net price per acre than that secured by his neighbors. Now, while it must be confessed it takes some grit to see good looking, sound oranges dropping, if the grower would only quietly permit it to go on and then accept the greater money at the end of the season, he certainly would be happier and more well-to-do.

* * *

One thing peculiar about this season is the fact that the usual satisfactory returns received by the more inland valleys have been exceeded by the closer-to-the-coast sections. In fact, taking all citrus fruits, we believe it safe to say that the sections north and south of Los Angeles, which have usually given indifferent returns, will this year make a showing on their total shipments of the season of better net returns than any of the premium-winning navel orange growing valleys. This has been in part largely owing to the fact that



The Emerson Disc Plow

Is Far Ahead of Any Other Make

Note the points of superiority: **Levers** controlled from the seat; turns a **square** corner; instantaneous acting lever; number of discs easily **reduced** or **increased**; **dust-proof** and **oil-tight** bearings. Rear lever provides ample depth of furrow in opening land and when on the road. It is **compact, strong** and **durable.** We supply these high-grade plows. You make no mistake in purchasing of us. Our catalogue gives a full description of the **Emerson Disc Plow**, together with many other farm implements and utilities. **It is sent upon request.**

Newell Mathews Co. 200-202 NORTH LOS ANGELES STREET LOS ANGELES, CAL.

Selling Agents—Bird & Beebe, Anaheim; Whittier Implement Co., Whittier; Twomey & Smith, Pomona; Riverside Implement Co., Riverside; H. Gregory, Redlands

the section in question has been the larger producer of Valencias and lemons, and Valencias and lemons have broken the "world's record" this year and brought returns which were almost fabulous. This, in the case of lemons, is especially satisfactory, for the lemon growers for the last few years have had up hill work in attempting to get a living price for their goods. As noted in last week's paper, one association, the San Dimas, shipped sixty cars for which they received $60,000. Other shippers have been heard from who have secured close to $7 per box for the entire shipment.

This question of lemons and Valencias and of navels, brings us to discuss for a moment the one point of locality for the different varieties of citrus fruit. For instance, the Washington navel orange has usually been considered to grow to its sweetest and best along the foothills from the Duarte-Monrovia section on the east through San Dimas, North Pomona, Uplands, Cucamonga, Highlands, Redlands, and on the south along the Arlington Hills above Riverside. This is not saying that other sections do not grow nice navels, but that is a section in which the bulk of the best fruit is grown.

On the other hand, with lemons, while they are grown in the entire section mentioned as favorable for navels, we believe it safe to say that the bulk of the finest grade of lemons are grown near to coast influences. For instance, at Santa Barbara, Montecito, Santa Paula, Whittier and sections of Orange county, there have been forwarded some of the finest grades of lemons and in the best of shipping condition that can be produced in the State. We believe this is generally conceded, though some of the producers of lemons in the more inland foothill sections have claimed equal advantages. But we believe there is greater danger of shriveling of the cured fruit and that the acid content of such fruit is not generally equal to the best of that produced near the coast.

This year we have heard the theory advanced, and believe it good, that the Valencia orange requires practically the same conditions as does the lemon. For the first time, we have heard a prominent Riverside orange grower say that while he still claimed for his section the peer of any place in the world, as a navel producer, he must admit that the best Valencias and the highest selling fruit had been, as a rule, produced nearer coast influences than Riverside.

This is not mentioned to knock or in any way detract from any section, but to call attention to the fact that exceptionally fine fruit, well-packed of its kind, is reasonably sure to command a living price and to take the market at any time. The indifferent fruit costs just as much to pack, to handle, and to ship, and for other expenses as does the best of fruit. Then, is it not a good lesson for the owner of land in Riverside, or Redlands, Highlands, Uplands, or North Pomona, to devote such land to the growth of that for which it is pre-eminently fitted? To illustrate: While conversing with the manager of one of the largest packing houses in Redlands recently, we asked what was the percentage of the various grades of navels, as the fruit came in ordinarily from the orchards, and he replied, "Fancy, about thirty per cent; choice, fifty per cent; standards, fifteen per cent, culls, five per cent." Asking the same question in another section which ships several hundred cars of oranges, we quickly received the response, "We have not shipped a single fancy navel from this house since January and of extra choice for the entire season not over two per cent, with only about fifty per cent of choice, balance standards and culls." That was as to navels, of course. In Valencias, the same section produced some of the finest fruit grown, that will grade much higher than for the navels. Now then, in the future, if planting be done, is it not the best of wisdom for this section that produces extra fine Valencias, and, we may add as well, lemons, to let the planter choose those varieties; and the planter individually, and California in general, will be enriched by such action.

Of all the expensive teaching which experience has given to California, this experimenting to find productions adapted to localities has cost the State the greatest amount. It has often been used as an illustration of the fickleness of mankind to refer to examples of planting of oranges, followed by olives, which in turn were uprooted and followed by apricots, the 'cots later to give way to alfalfa, which latter proved a complete success. But rather than an example of fickleness, we take it as an example of the lack of judgment of the first planters in their choice of trees for those conditions.

CITRUS FRUITS

By C. A. Day, Pasadena

RED SCALE.

The red scale is pretty widely distributed throughout the citrus fruit growing districts of Southern California. It belongs to the armored class of scale, but differs from some other varieties in that it lays no eggs. The young are born, or in other words, the insect is viviparous, therefore, any treatment that will destroy the old scale, will destroy the young also.

Its main breeding season is during the warm weather of the summer. The period of generation is about 40 days. It also breeds to some extent through the winter and spring, with a somewhat longer period of generation. The main breeding season begins in the month of June, and with a warm fall, is active until the first of January. Like other scale insects, it chooses certain varieties of trees, shrubs and vines which it attacks in preference to any other. It readily attacks all citrus trees, but it prefers the lemon and grapefruit. It comes to infect the orange, but is slow in gaining a foothold in the orange orchard, but when once well established in the orange orchard it becomes a serious pest.

Aside from citrus trees its favorites are the camphor tree, certain varieties of roses, some varieties of palms and it is sometimes found on a few other species of shrubs and plants.

On the citrus tree it locates on the fruit, foliage, new and old wood, and trunk of the tree. When located on the fruit it will continue to live and breed long after the fruit has been detached from the stem.

* * *

Spread of the Scale.—The young larvae have the power of locomotion, but very soon permanently locate on some part of the tree. It is distributed from one orchard to another by means of infested fruit, nursery stock, picking sacks and boxes, and is probably carried by birds and insects. It does not immediately infest the whole of even a lemon orchard, but located upon a single tree, gradually spreads to the surrounding trees, and when not interfered with by fumigation or spraying, will require two or three years to thoroughly infect an orchard of considerable size.

* * *

Parasites.—There are no parasites in California that effectually control the red scale. Several of the ladybirds feed to some extent on the larvae and at least two species of the chalcid fly attack the mature scale, but none of these are effective.

In experimental work the writer secured a year ago from Orange county, lemons infested with red scale. These lemons were placed in a close glass jar. A considerable number of the golden chalcid fly were bred out from the scale. The same chalcid fly was found attacking the red scale at Pasadena, but had no perceptible effect in controlling the red scale even on trees that had not been treated.

This scale has long been a common pest in the Levant and in China and Australia. Its probable home is in the Oriental countries and that is where we should look for an effective parasite. It is to be hoped that the State Horticultural Commission will eventually succeed in finding and introducing an effective parasite for the control of this scale pest.

* * *

Injury to Tree and Fruit.—The scale feeds on the sap and is a draft on the resources of the tree. The infected fruit is not marketable and even where the scale on the fruit is destroyed by treatment, the fruit, especially lemons, is injured in appearance and will not pass as first class fruit.

* * *

Treatment.—There is great difference of opinion among growers of citrus fruits as to the best methods of treatment for the control or eradication of this scale. Some are strong advocates of spraying, while others as strongly favor fumigation. I am sure that no one will claim that spray of any kind will eradicate the red scale, and all that can possibly be claimed for this method of treatment would be to control or reduce the scale to a point where it would no longer be injurious to the tree or fruit. Spraying is cheaper than fumigation and must be applied at least once a year, and where the trees are badly infected, twice a year. Spraying is effective when applied at the beginning of the breeding season of the scale, say in June.

Where the orchard is sprayed in the fall, usually in September and October, the scattering scale left alive will continue to slowly breed through the late fall, winter and spring, and a considerable stock of scale will be on the trees at the beginning of summer, and these will quickly restock the tree, and, further, where the infection only includes a part of the orchard or where there are adjoining orchards that are not infected, there will be a further spread of the scale during the principal breeding season of the insect. The effort to apply the spray at a time when it will be in a measure effective on the red spider, black, red and other scale, has resulted in the applying of the spray in the fall. The question would here naturally arise as to whether a single spraying in June would be sufficient for red scale. From experience and observation, I should answer no. It will always be necessary to spray in the fall, giving an extra spraying at the beginning of the summer. The lemon tree will stand a stronger spray than the orange and when spraying for red scale the full limit as to strength of spray shold be used.

The difficulty in spraying for red scale is that the scale, when well established, infects the entire tree, including the interior and the trunk of the tree, and it becomes impossible to reach and destroy all of the scale.

* * *

Fumigation.—Fumigation with cyanide for red scale, when properly applied to a single tree, will destroy all of the scale, but in the fumigation of the trees of an orchard of any size it is doubtful if a single fumigation would destroy every living scale in the whole orchard. The scale on infected fruit lying on the ground under the tree that is fumigated, would probably escape injury, as the gas under the tent near the ground is of less density than in the rest of the space enclosed by the tent. In fumigation the full limit of material and the right proportion of water should be used, the tent should be whole, well down to the ground and should remain on the tree one full hour. A fumigation of this character should last for at least two years.

I favor the fumigation of citrus orchards, excepting large seedling trees, where the expense would be prohibitory, at least every two years to hold in check red, yellow and greedy scale.

* * *

YELLOW SCALE.

The yellow scale is very much like the red scale in structure, but varying from the red in color and habit of infesting only the foliage and fruit of the tree, rarely being found on the wood. This scale is sometimes held in check by parasites, but in many cases requires treatment similar to that for the red scale.

HAVE YOU MADE YOUR WILL?

I make a specialty of wills, and prepare them, in conformity with the laws of any State, at one-third the usual charges. For ordinary wills—as husband to wife, for which the ordinary charge is $10—my fee is $3. Others accordingly. By mail as satisfactorily as by personal interview. Twenty years' experience. Highest references. ***E. C. CAYPLESS, Lawyer, 207 Currier Building, Los Angeles, Cal.***

When writing advertisers mention Cultivator.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

Peas 500,000 Pounds Two Hundred and Fifty Tons **Peas**

Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

ROCK GARDENS.

There are two kinds of rock gardens, those built as homes for plants and others put together to have a natural appearance, the latter consisting of immense boulders placed according to fancy and which must necessarily accommodate but a very limited number of plants, unless the garden be of great exetent. The rock garden which is built chiefly as a home for a collection of alpine and low-growing herbaceous plants, may be constructed to occupy a comparative small space, just enough to accommodate those plants of a showy nature. More extensive rockeries to provide a home for every known species at all likely to thrive irrespective of their attractiveness are only necessary in public gardens for educational purposes. A rock-work home is absolutely necessary for some kinds of plants in order to have a source of permanent supply. Among those which it is advisable to grow after this manner are sedums, sempervivums, aubrietas, gypsophila (dwarf), thymus, cerastium primulas, saxifragas, Lithospermun prostratum, edelweiss, Geranium sanguineum, penestemons, dryas and Azelea procumbens.

GINKGO FRUITS.

In California, and quite generally throughout the United States, we grow the Maiden-hair tree and though it fruits freely no one has reported its use for food. John Chinaman seems to relish it, as he does every evil-smelling fruit he can obtain.

The fruit of the Ginkgo is of the size, shape and consistency of a small plum. The fleshy portion, at first a bright green, turns yellow when ripe. The pulp is rich in an oily substance, which at an ordinary temperature is of a butter-like consistency. The quantity of sugar contained in this oil is very small, and the fermentation, supposing it to be easy to ascertain, would certainly yield only a slight proportion of alcohol, the value of which, supposing it could be utilized, would not cover the cost of production.

It is then rather to the oily matter that one's attention should be turned in endeavoring to put the fruit to some practical use. This could probably be obtained by any process applicable to the olive. It must be noted, however, that this oil, in three or four days at most, on exposure to the air, quickly develops a rancid odor, which would certainly be found very disagrecable.

According to certain authors it appears well established that the Chinese willingly eat this pulp, but probably this would not be to our taste. Not that there is anything very astonishing in that, as it would be easy to name numerous other foods upon which we have not the same ideas as the people of the Far East.

But if it does not appear to us that the pulp of the Ginkgo has any chance of figuring in the ordinary fare, it may be otherwise with the seed. This possesses a flavor somewhat like the walnut or hazelnut. The oil it contains, which must be of different composition, does not become rancid like that of the pulp, and it is quite probable that this seed might become quite acceptable as an article of food. In common with the greater part of the conifers, it contains besides the oil a certain quantity of starch, which would complete its dietetic value.

This beautiful Chinese tree is used only for ornamental purposes. It flourishes in deep mellow land, where there is no undue proportion of clay, and shows a hardiness practically absolute, due in part to the decay of its leaves, which renders it almost indifferent to the rigors of the Eastern winter. The propagation is very simple, both by sowing immediately after the fruit is gathered and by cuttings stuck even in the open air at the end of the season.

CHORIZEMAS.

The Australian flora is very rich in leguminous plants suitable for culture in this country, and among the many genera Chorizema is conspicuous on account of its general usefulness and beauty. They have been in cultivation for nearly a century but like many other good old things, not now grown to such an extent as their good qualities warrant. In habit they form a loose bush with long, thin branches sparingly clothed with holly-like leaves, the largest of which are barely two inches long. The flowers are small and bright red, with a yellow blotch at the base of the upper petal. They are borne in long, loose, terminal racemes, both from the main branches and all side branches. The flowering season is midwinter, and the plants keep in good condition for quite three months. After flowering the plants should be cut back and rested until growth recommences, after which they should be given as much light and air as possible. A few years ago these shrubs were quite popular in some parts of California but because they needed a little care were doubtless allowed to dwindle away, until now hardly one may be found. They are well worthy of more extended cultivation.

CYCLAMEN.

Growers of cyclamen obtain the best results by raising new plants every year; still old bulbs can be flowered well if they are treated properly. The cause of bulbs not blooming is generally because they have not had complete rest or, having been dried down too soon after their flowering period last year. To dry the bulbs down so they will flower well next season, you must be governed by the condition of the plants, as there is no set rule to go by. When you see that they have made all their growth and are inclined to rest begin gradually to withhold water; but do not let them get dry enough to wilt as long as any foliage remains on the plants. The chief aim is to have the bulbs commence the resting period naturally; after drying put them away in a dry, cool place until they show signs of life, when they should be taken out and potted, using a soil composed mainly of leaf mold.

Perhaps seedling cyclamen are generally potted in a too heavy soil. Pot them in pure leaf mold with a little sand mixed with it; keep them warm though well shaded; water only when they need it, using water from a barrel or tank to have it warm. Water direct from the hose pipe is too cold for the young roots.

DANGER OF OVERPLANTING.

A certain amount of shade is very desirable in connection with a house, especially in climates like ours where, during a great portion of the year it is more agreeable out doors than it is in rooms; yet it had better be secured by covered verandas than by trees. It ic also more conducivc to health to sit under a covered roof; exposure to evening dews is a well known fruitful source of sickness.

Another disadvantage resulting from surrounding the building with a thicket of foliage is, that it shuts out the views of immediate and distant scenery, as seen from the house, at the same time the house as an object of the local landscape, is completely hidden from view. If the achitecture of the structure has received any study as a work of artistic design, it should in itself form a picture which, to be properly appreciated, must be seen and viewed as a whole, so that its proportions, outlines, elevations and ornamental details may be taken in at one view. Even beds of low shrubbery, if abundantly introduced near the base of a building, will foreshorten the elevation, obstruct the view of the horizontal base line, and seemingly destroy architectural proportions. Many of the finest structures, both public and private, are ruinously shorn of their beauty by careless or ignorant planters, who, in their endeavors to beautify a building, succeed only in concealing those salient lines and projections that give it character and distinctiveness.

APPROPRIATE GARDENING.

A proper connection of the house with its surroundings is the first point to which attention should be given in laying out grounds, as it is the most prominent and leading detail of improvements. A house should not appear to have risen out of the green lawn like a tree. It is necessary that some evidence should be apparent of suitable preparation having been made for the building; at least, a level plaform of more or less width should project from the base line. The groun l line should be level, and all walks should correspond with the lines of the ground plan. Zigzag and curving walks close to the straight lines of a large, of even the most humble building, are directly opposed to beauty or propriety; they are sure evidence of unskilled labor.

WHEN TO GATHER SEED.

The inexperienced will be apt to let their vegetable seed remain on the stalk or vine till it is overripe and consequently lose a large per cent of it. Beginners aim to have every seed ripe before gathering, whereas they should aim to have every seed mature before gathering, which will include the ripening of the great bulk of it, depending on sun and air to fully ripen the remainder. Take cabbage seed as an illustration. If we wait until the whole crop ripens on the stalk, then after a heavy dew or prolonged rain, a large proportion of the seed pods have snapped open as soon as the sun strikes them. If we wait till every onion seed in the head is ripe, the first breeze will shower it on the ground.

Gather cabbage seed either a day or two after the pods have attained the red color, when on breaking they show dark red seed within. Lay the stalks on a tight floor, where sun and air have free access. Gather the onion seed whenever the stock is dead just below the seed head, or when a third of the seed receptacles have cracked open, it matters not how green the stock may be. Spread the seed heads one deep on lath frame, in a dry airy loft. Carrot seed can remain out longer than seed of any other vegetable without wasting. The waste begins on the outer row of each seed head, it rises up and drops off. As carrot seed requires two or three cuttings it is well to allow as long an interval between each as is safe, with the object of threshing the last of the seed at the time of gathering, cutting the entire mass of shoots at the ground instead of each individual head.

To determine when to gather the beet seed, crack between the teeth some of that which is green, and if the seed within cracks open white, the entire stalk is ready to cut. After cutting it may be laid on the ground until the outer shell, which contains the seed, is dry. Peas and beans, if left till fully ripe before the vines are pulled, may require a good deal of labor in picking over. Stack around a pole. roots in, having a barrel head or a few stones to keep the vines from the ground.—West Farmer and Dairyman.

Blue Gums

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity

Geo. B. Warner, Santa Ana, Cal.

When writing advertisers mention Cultivator.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297
Pasadena, Cal.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, Etc
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS

ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.

WRITE FOR PRICE LIST

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

General Agricultural Notes

HYDROLOGY OF SAN BERNARDINO VALLEY, CALIFORNIA.

The underground waters in the valley of the San Bernardino, California, where irrigation practice has attained a high degree of perfection, are of very great importance, as two-thirds of the irrigated acreage is dependent upon the underground waters, either wholly or in part. A report on the underground waters of this valley has been prepared by Mr. Walter C. Mendenhall of the United States Geological Survey, under the general direction of Mr. N. H. Darton. This report is now available as Water-Supply and Irrigation Paper No. 142, under the title of "The Hydrology of San Bernardino Valley, California."

The San Bernardino basin lies near the eastern end of the valley of southern California. When in 1851 the first band of Mormon immigrants dropped down through Cajon Pass into San Bernardino valley, after a journey of months across the parched deserts from Salt Lake, the abundant springs of pure water found in the valley must have appealed to them with a force which was greatly increased by the vivid memory of the loss of their companions by thirst in Death Valley but a short time before. It is not a matter of wonder that they decided that their wanderings should cease here and that they straightway began the building of homes, in which they hoped to spend the rest of their lives.

As early as 1810 a mission settlement had been affected at Politana and somewhat later another of more importance and greater permanence was established at old San Bernardino. It was there that the Mill Creek zanja, the oldest irrigation ditch in the valley, was constructed between 1820 and 1830. The first ditch of Mormon construction was not built until 1854. With this beginning, other small ditches were dug in the middle of the valley as the population increased. The irrigated areas were thus gradually extended, but large projects were not undertaken until work was begun upon the first Riverside canal in 1870. By 1876 both the upper and lower Riverside canals had been completed, and thereafter a constantly increasing acreage was brought under cultivation, until, in 1882, 4300 acres were supplied by these systems.

In 1883 the construction of the Bear Valley dam was begun, and with its completion, in 1884, the reclamation of the valuable citrus lands of the Redlands mesa was accomplished. In 1885 Matthew Gage undertook the construction of a higher canal, from which he proposed to irrigate a belt of the Riverside mesa lying entirely above the older Riverside canal systems. Unlike the other large canals of San Bernardino Valley, it has depended from the first chiefly upon developed underground waters, and the 7500 acres of splendid citrus lands which it has brought into the productive zone indicate the results that may be accomplished by the use of such waters. The final result of all these development schemes has been the reclamation of about 54,000 acres in the Redlands, San Bernardino, and Riverside quadrangles. Nearly all of this acreage depends upon the water supply from the San Bernardino mountains, either utilized directly as it flows from the canyons or recovered later from underground reservoirs.

The most important single element in bringing about this development has been the growth of the citrus industry since the foundation of the Riverside colony in 1870. Since the building of transcontinental railway lines which have given the fruit a wide market, the industry has grown rapidly and the need of irrigation has been greatly emphasized.

After discussing the rainfall, soils and water supply of the valley, Mr. Mendenhall describes the San Bernardino artesian area and other artesian wells in the Redlands and San Bernardino quadrangles. Those phases of the geology which throw light upon the amount, distribution, and movements of these waters are described by Mr. Mendenhall, and the effects of development and drought in bringing about those changes in water levels which have taken place in recent years are discussed.

This report is listed as Water Supply and Irrigation Paper No. 142, and may be obtained, free of charge, on application to the Director of the United States Geological Survey, Washington, D. C.

SOIL AND CULTIVATION FOR POTATOES.

The best potato soil is a sandy or gravelly loam which contains an abundance of vegetable matter, and which is well under-drained. In the best potato districts the soil will average about four feet deep. Below this is an immense layer of gravel which insures perfect drainage. Vegetable matter is secured by plowing under alfalfa sod. Alfalfa is grown two years, then turned under in the spring and planted to potatoes. Two crops of potatoes are grown in succession, then wheat is sown and the land again seeded to alfalfa, thus making a five-year rotation. The second crop of potatoes, however, is rarely as good as the first, probably because of the increase of fungus in the soil, and in most localities but one crop of potatoes should enter into the rotation system.

A heavy alkaline soil, that has poor under-drainage, furnishes an ideal condition for the growth of this plant disease, and it is in such soils that potato failures are most frequent. But poor under drainage in any soil is conducive to its growth. It will be seen, then, that cultivation and irrigation must be important factors in controlling disease. Most people who attempt to grow potatoes make the mistake of using more water than is necessary for the best growth of the plants. The rows should be comparatively short, so that part of the ground will not need to be over-watered. Frequent irrigation, using a small amount of water at a time, has been found by the writer to give best results. The seed should be planted about four inches deep in rows 38 to 40 inches apart. The furrows should be about five inches deep for the first irrigation, and with subsquent irrigations they should be increased in depth. The idea is to make the furrows deep enough to supply sufficient moisture to the roots without saturating the upper portion of the ridge, where the tubers form. Cultivation should follow as soon after as the ground is in condition to work The condition of the soil and plants should always govern the amount and the frequency that water is applied.

After all has been done in the way of culture, seed selection and a long rotation of crops, the vines and weeds should be collected and burned each season after the potatoes have been dug. This will destroy a great deal of the fungus that would infect other fields, as the vines are scattered by various means.—The Ranch.

FRUIT GROWING A VERY BROAD FIELD.

Do not think that because you have grown one successful crop of some particular fruit you know all that is necessary for the practical man to know about that fruit. Nor, when you pass an orchard in which an abundant crop is ripening with no one about save nature to make it grow, do not say to yourself, that because I can plant and reap I can make a success in fruit culture. True, it is, that splendid harvests are often had from fields that have received little from the hands of man. But such instances are like finding gold nuggets—you run on them incidentally; they form no premise for a working conclusion. No person can claim a right to expect success in the fruit business, or any other, for that matter, who depends solely on luck. One good crop does not mean success; it simply points to that possibility.

Fruit growing permits of a lifetime's study and observation of a kind that constantly becomes more and more interesting and profitable as the seasons go by. The mechanic deals with constant factors which after a time become monotonous, but the person who grows plants ever has the varied conditions of nature put together in innumerable forms, each of which produces its own results on plants, to manage.

One who has convinced himself that he will attempt to raise fruit must begin by deciding what kind of fruit will best suit his conditions and taste. Is this a small matter? Not if it is properly done. It means a study of the fruit of the community; an examination of the soil upon which the most productive kinds are grown and a comparison with the soil at the command of the investigator; a like observation of the surroundings as to lay of land, protection, etc., of the fruit. If the community does not afford examples for study, the task before the planter is more difficult to decide with certainty. Under such circumstances, he must inform himself regarding general conditions in which those fruits unknown in the neighborhood will prosper best, and judge if his conditions will suffice. As soon as the kind of fruit is chosen, other problems present themselves: What variety of the fruit will serve best? Where shall he secure his trees and bushes? When should they be planted? How pruned at planting time? How should the ground be prepared? At what depth will the trees or bushes do best? What about cultivation, cover crops, fertilizers, etc., during the years of development? Then, too, the insects and fungi troubles must be dealt with. The grower needs to learn these different enemies, the nature of their work, the treatment required to combat them.—Michigan Farmer.

"Why do you take the city census in July?" "We wait for the green apple season." "Why?" "Because much of our population in the suburbs will then be doubled up."—Cleveland Plain Dealer.

YOUR EASTERN FRIENDS

Should know that the Low Colonist rates are now in effect from Eastern Points to Southern California via the

SALT LAKE ROUTE

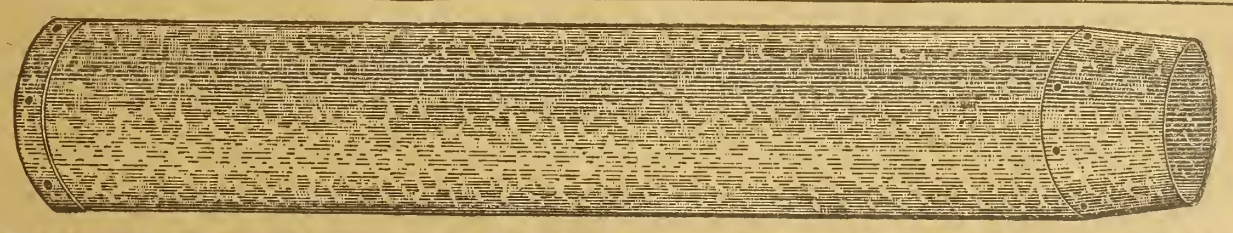
From Chicago	$33 00
" St. Louis	30.00
" Kansas City	25.00
" Omaha	
" Council Bluffs and	
" Missouri River Points	

Fast Time — SALT LAKE ROUTE — Elegant Equipment

Through Tourist Sleepers Daily between Chicago, St. Louis, Omaha, Kansas City, Hannibal, St. Joseph and Los Angeles.

Information gladly furnished by any representative of the Salt Lake Route, or by addressing

E. W. GILLETT, Gen. Pass. Agt. T. C. PECK, Asst. G. P. Agt. Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 22, 1905

CONTENTS.

	Page.
Controlling Pear Blight	267
California Horticulturally	268
Grange Meeting	268
Beekeeping for Beginners	269
Black Scale	269
Strawberries for Profit	270
Outlook for Citrus Industry	270
Red Scale	271
Floriculture	272
General Agriculture	273
Editorial	274
Coast News Notes	275
Feeding the Horse	276
Dairy Items	277
Queries and Suggestions	278
Prevention of Roup	279
Poultry Question Box	280
Household	284
Recipes	285
Markets	286-287

Farm Insurance.—Recent disclosures in the management of life insurance companies has led to discussion in regard to fire insurance as well. It is manifestly apparent that as much irregularity exists in regard to fire insurance as exists in life insurance. The system under which both are run is wrong. The expense of conducting the business of each is too great. The officers draw exorbitant salaries, some of them ridiculously high, so high indeed, as to leave little to meet the legitimate calls upon the corporations when losses occur. Fire insurance companies do not require expensive operation. In the country they do business comparatively cheap. Their losses are nominal and there is no excuse for the high rates charged by the board companies. We believe in insurance, every farmer should protect his property, in some company, but he doesn't wish, nor can he afford, to pay for his insurance a sum which is equal to the risk he can afford to take to carry his own insurance.

A State law could be framed, it seems to us, which would permit County Mutuals to extend their operations over territory beyond the counties in which they are organized, and allow them to do business in counties where no local companies exist. An insurance commissioner, whose duty it is to investigate the condition of the county mutuals, as is done in the case of State banks, should act as a check upon the operations of the companies and keep them safe and sound. The expense of mutual companies is not large about one-fourth to a half as much as the old line companies and the method of their operation simple. They can carry farm insurance, or at least they do, cheaper than the board companies, and the rule is that they pay their losses with less delay and more nearly to the amount insured.

The present system of farm insurance in this State is open to improvement. Some member of the State Legislature can do his constituents "a power of good" by formulating a law which will give to the farmer a cheaper, if not a safer means of fire protection. Of course, reliability in insurance is quite as necessary as cheapness, but it is possible to get both in a law which will protect the interest of the insured as well as allow insurance companies to make reasonable profits.

The ten mutual companies doing business in the State have insurance to the amount of seven millions of dollars, at an average cost of twenty cents per hundred per year—one-half of which has gone to pay for actual fires. The Insurance Advocate, of recent date, shows the cost of insurance between the stock and mutual companies of the New England States. That paper makes the declaration that:

"The average cost to the insured under these mutuals is 10 cents to every $100 written, which embraces losses and expenses; while in the stock companies the cost is, say, 90 cents to every $100 written. Therefore, in order to get down and run even with the mutuals, the stock companies must eliminate 80 cents from the cost."

"These mutuals possess the great advantage of virtually writing unlimited lines—take in the full value of the risk under one policy, and one scientific inspection, with which condition the stock companies cannot compete.

"The mutuals pay no dividends at a cost to the insured; while the average of annual dividends to the stockholders of a company is 10 per cent of the bare capital."

According to the Coast Review, the Board companies doing business in this State charge on the average, from one dollar to two dollars per hundred per year, for country insurance, about one-half of which goes to pay actual losses and the remainder to expenses. These rates, if correctly stated, debar the average farmer, and many townsmen, from the benefits of insurance, because he can not pay the price asked by the board companies. We are of the opinion that fire insurance methods along the plans of old line insurance need investigating and correcting fully as much as life insurance methods. Both systems are excessive in their rate of expenses. Their salaried officers and current expenses should be reduced to comport to actual business along commercial lines of the day.

* * *

About the State Fair.—The State Fair for 1905 is over. As usual, there is adverse criticism to the manner of its operation and to the methods employed by the managers in making awards. An exchange, in the central part of the State, takes the Cultivator to task for saying some complimentary things about the fair, this year, and characterizes the remarks made as the "same old rot in the same old way." The Cultivator has heretofore found it necessary to say some plain things about the management of the State Fair, because of the tendency shown to permit questionable shows and gambling devices to run on the grounds simply for the revenue derived therefrom. But this year the word went out that no concessions of this character would be granted and that the meeting should be in all respects clean and above criticism. We felt that it was the duty of the Cultivator to commend this determination of the managers and to urge the farmers to attend the fair and get all the pleasure and profit they could out of it. The State Fair is certainly a proposition that ought to appeal to the pride of all Californians. It is the farmers' exhibition of the year. It ought to be free from everything which has a tendency to detract from its influence or to lower its standard of excellence. That, of course, goes without saying. If gambling in races, or in anything else, is permitted, the management is at fault and it ought to be criticised.

There is one thing, however, which ought to be done by the people of the State, those we mean who support and control the fair. It has been demonstrated, we believe, very clearly, that there ought to be more than one place of holding the fair. Sacramento, the present location, it may be said truthfully, is too far away for the farmers south of the Tehachapi to send their hogs, cattle, sheep, horses and farm products. It is too expensive to ship these animals and products and takes too long to go and come. Then, too, Sacramento is not a large enough city to accommodate the people who attend the fair. One reason why the fair is not better patronized is the inability of the hotels to take care of the crowd. Then, too, there is the general criticism that exorbitant rates are charged for the occasion, by the hotels and that miserable accommodations are offered guests. This is a condition which calls for prompt correction. This is a graft which is too abomniable to tolerate. The State Fair would be twice as popular as it is were it made into two district fairs; one north of the Tehachapi, for the north part of the State, and the other south of the Tehachapi for Southern California. The territory is ample enough to support two great big fairs and if held on consecutive weeks exhibitions could be taken from one fair to the other, in most cases without material injury. A system of judicious advertising in the country and city papers would awaken an interest and add immensely to the patronage of the fairs. Spend some money in this direction, put reasonable prizes on animal and farm exhibitions and less on horse raising and the California district fairs will soon rival the far famed fairs of some of the Middle States. The present plan is behind the State's degree of progress, it's obsolete—and it ought to be changed before another year.

* * *

Will Not Resign.—The Secretary of Agriculture has written the editor of Successful Farming that he is not going to resign and the editor says, "because of this the people are glad."

There has never been an instant when there was the least suspicion of a logical cause why he should resign. In a letter to the paper referred to Mr. Wilson says, in reference to the report that he is soon to leave the cabinet:

"In a period of eight and one-half years while I have been endeavoring to build up a Department of Agriculture that would benefit the men who work in the fields with their coats off, I have been vigilant, and turned out nearly three hundred people who were misfits, or were leaning in the wrong direction, or were incompetent. And any wrongdoing now will be promptly punished. I am proud to say that all the glare of the lime light has been unable to show only one wicked man in six thousand, and that makes me very proud of my people here. They are a grand lot of men, the finest aggregation of scientists ever brought together to do work for the common people. To leave them now would be cowardice on my part. I must stand by them and fight their battles for them."

THE COLLEGE FARM.

Sacramento, Cal., Sept. 15th.

Editor California Cultivator: One of the principal topics of interest in the northern counties at the present time is the location of the agricultural farm, provided for by the last Legislature. There has been a very determined effort to locate it at Berkeley, whether or no, and this has aroused the farmers of both the Sacramento and San Joaquin valleys, in whose interest the bill was supposed to have been passed, and some very strong criticism is being indulged in in regard to the University and its connection with this matter. Even Prof. Bailey, who has a world-wide reputation as a horticultural teacher and writer, and who is generally respected where known, is coming in for no unstinted criticism as a "butter-in" in matters which could not concern him, and it is openly charged that he was imported from Cornell, at the expense of this State, in order to thwart the will of the people, as expressed at the last Legislature, and divert the money then appropriated from its legitimate channel into the University. It is to be regretted that a man so well known as Prof. Bailey should have allowed himself to be mixed up in a matter of local interest. It is a somewhat strange proceeding, too, that a man utterly unacquainted with Californian conditions, who knows nothing of our peculiarities of soil or climate, to whom irrigation is a mystery, whose whole education in his profession has been acquired under eastern conditions, should be brought to California to tell us what we should do. With all due respect to Prof. Bailey, it may be safely said that the opinion of some old California farmer on this matter is worth ten-fold more than his, and will probably have more weight with the commission. There is a very strong feeling growing against the present management of the University and this last act tends to increase this feeling. There is a constantly growing opinion that the University is absorbing too much of the government of the State, that it is reaching out for everything in sight, and feeling around for much that is not in sight, that it is departing from its original character as an educational institution, and endeavoring to become the governing body of the State. This course is gradually weaning its best friends from it and even Judge Shields, of Sacramento, who has always been one of the strongest friends of the University, made an address before the Live Stock Growers' Association, at the late State Fair, in which he denounced in no measured terms the effort to divert the agricultural farm appropriation to Berkeley, and in conclusion introduced a set of strongly worded resolutions denouncing such effort.

It is hardly to be expected that having made the effort to get the farm, that the University will give it up, but it now looks as though the opinion of the people who pay the money, will have some weight in the matter, and the commission will locate it in some farming section and away from University influence.—Agriculturist.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

B. F. Campbell of Orange, has a grove of Valencias which paid well this year. One tree alone paid $125. The tree is about thirty years old.

The almond crop in the Sacramento valley is now being shipped to eastern markets. The nuts are in fine condition and good prices are looked for.

In the country around San Martin and Gilroy the prune and peach crops are about all gathered and large shipments are being made from there daily.

Last week Wm. Calder of Orangevale, Placer county, received a bronze medal and diploma for his exhibit of oranges at the St. Louis Exposition last year.

O. L. Jordan, who has a ranch near Whittier, received a net return from two hundred and ninety Valencia orange trees this season of nearly $2700, or more than $9 per tree.

The district around Aromas, Santa Cruz county, is fast coming to the front as an apple growing section. Nearly two hundred carloads of fruit will be shipped from there this fall.

It is reported that two new canneries will be built at Marysville for the next year's crop, one by the California Fruit Canners' Association and the other by Rosenburg Bros. & Co.

A fruit item from the Mt. View Register says that at Niles, where fruit help was scarce this year, apricots were treated much the same as prunes. They were simply dried whole.

The wine grape crop in the Italian-Swiss colony at Asti will be about a two-thirds crop this year. The growers in that vicinity are receiving $16 and $18.50 a ton for their grapes.

A telegram dispatched from President Rossi, of the wine company of Santa Rosa, announces that only two-thirds of the normal grape crop will be produced in that section this year.

It is stated Rosenburg Bros. have drawn out of the fruit jobbers' combine at San Francisco and go independently hereafter. $25,000 is said to be the forfeit for the firm drawing out.

W. H. Schuyler brought to Santa Maria one day last week several hundred pounds of choice cherries. The cherries that are ripening at this time seem to be something like a second crop.

J. M. Laughlin, who has a fine vineyard near Windsor, Sonoma county, has on hand ten thousand Rupestris St. George cuttings and intends planting thirty acres more in improved wine grapes.

According to the Dinuba Advocate, raisin grapes in that vicinity are not turning out as well as in previous years. One place that yielded thirty tons last year only produced nine tons this year.

The Salway peach crop in the Santa Clara valley is being sold mostly to the canneries this year, though some are being dried. The dried Salways that were peeled are commanding seventeen cents per pound.

R. M. Dodge, fruit grower near Tulare, has discovered a new fig that he claims will stand shipping while fresh. The new fig is a reddish-purple in stripes of different shades. The flesh is rather dry but is very sweet.

John Q. A. Ballou, a farmer near San Jose, sold his peach crop this year, from an orchard of twenty acres, one hundred and twenty tons of peaches, at $47.50 per ton. Total cash received being $4750, or $275.50 per acre.

The annual report of the Upland Citrus association shows that six hundred and seventy-three cars have been shipped, the growers receiving $212,-931.19. The average paid for all grade navels was $1.19 1-7 per hundred pounds, or $.83 2-5 per packed box.

The yield of apples in the Pajaro valley is by far the heaviest of any in many years. Shipments are now being made from Watsonville at a rate of over one hundred and twenty carloads per week and should the present prices of apples prevail throughout the season the receipts will be enormous. Practically no damage is reported from the codling moth this season.

The olive crop in the San Fernando valley is turning out much better than at first expected. In the Los Angeles Olive Growers' tract it is estimated that fifteen hundred tons will be gathered and in the Pacoima and San Fernando sections about three thousand tons. About all of the old olives carried over have been sold. The season will commence about the middle of December.

Shipments of fresh deciduous fruits continue to be sent from Central California to the East in large quantities. Monday there were eighty-one cars sent out. Prices are holding up in an astonishing manner and growers are all making big money. A car from Florin sold in New York Monday for $1637, a car from Winters sold for $1228, and most cars sold over the $1000 limit.

The Marysville winery was destroyed by fire last Saturday, causing a loss of about $60,000. There was an insurance of about $32,500. The winery contained about 100,000 gallons of old wine, in addition to about 1000 tons of new grapes on hand. The loss to the winery is not only severe on its owner, but also to all the wine grape growers in that locality, as they will not have a home market for their product until the winery is rebuilt, which can not be done this year.

Happy Valley, in the vicinity of Olinda, Shasta Co., is elated over their success in gaining second prize for county exhibition at the State Fair, as it was their section which produced the fruit. Since many inquiries have been made for information regarding this section which produces such excellent fruit. The State analysis shows their fruit to contain from 3 to 4 per cent more sugar than any other section and the Cultivator man, who was recently through the valley, can vouch for the statement that it is good. The valley has plenty of water for irrigation and is an excellent berry country. Pears are fine and as yet free from blight, but growers are awake to the fact that vigilance must be exercised to keep it out. The grapes cannot be beaten for sweet juicy flavor.

AGRICULTURE.

The big sugar factory at Spreckels began its fall run this week.

A second fire in the Horst hop yards at Wheatland occasioned a loss of about $12,000. The kilns contained twenty thousand pounds of hops.

The Lompoc Record states that the potato crop in that valley is going to be very good this year. Indications being for a big yield of good quality.

For the most part the bean crop in Ventura county will be the best in years. In the Las Posas and Somis sections the beans were damaged, by the hot weather, from twenty to thirty per cent.

The 1905 crop of sugar beets in Ventura county is reported to be the best in its history. The average sugar content is running about 18.53 per cent. The campaign for the Oxnard factory is about one-half completed.

The Anaheim Gazette says that D. J. Mauerhan, of that place, is shipping one hundred and fifty crates of green chili peppers to Los Angeles weekly, where they are canned. The crop of chilis in that section is only about half what it was last year.

A. Fike, a farmer living near Laton, Fresno county, has by careful cross breeding and selection, produced a new type of onion. It is a cross between the Brown Globe and Silverskin varieties and is a large, white onion, very dense and has good keeping qualities.

A letter from the committee of agriculture of the State Board of Regents, signed by John E. Budd, Alden Anderson and Chester Rowell, states that the committee, after investigation, believes that the Tulare Experiment station is representative of the San Joaquin valley and should be continued. This station was recommended to be closed by Professor Wickson, acting dean of the University.

Hundreds of lima bean cutters are busy in Ventura county this week cutting the big lima bean crop. Threshing will begin in about two weeks, unless rain intervenes. There will be twelve threshing machines operated in the county and the biggest crop of limas in the history of the county will be harvested. Estimates vary as to the output, but there are predictions of from 550,000 to 750,000 bags. The crop will go beyond the 600,000-bag mark. The biggest crop on record so far is a half million bags. Many growers have contracted their crop at 3 cents.

LIVE STOCK.

The Raab Creamery Co. is having the plant at Monrovia repaired and will start it in operation again shortly.

An effort is being made to organize a cattle breeders' association for Central California, with headquarters at Sacramento.

Geo. Whitlock has sold his dairy ranch near San Jacinto to J. A. McNulty of New York. The new owner plans to run a first class dairy.

C. E. Gunther, of Ethanac, reports selling the milk from eighteen dairy cows to the Arlington Creamery and receiving an average of $150 per month.

A fire that desrtoyed over $50,000 of feed on stock ranges and burned over 15,000 acres of land, occurred near the Sutter Buttes in Sutter county, Monday night.

Shipments of fat mountain cattle have commenced from Red Bluff. Most of the cattle are sent to the San Francisco market and some are being sent to Mississippi points as an experiment.

The regular quarterly meeting of the State Veterinary Association was held at Berkeley last week. Officers were nominated for the coming year and will be elected at the next quarterly meeting in December. About forty members were present.

The Brawley News, in its last issue, gives an account of how one man made some money on hogs in the Imperial valley last year. A. L. Hamilton bought $900 worth of hogs about a year ago. He sold $2000 worth after fattening and is now ready to make another large shipment.

Dr. Chas. Keane, State Veterinary, has been conducting a number of experiments in injecting into the animal the culture of human tubercle bacilli, by which he hopes to render animals immune from tuberculosis. Samples of the necessary culture have been received by Dr. Keane from Germany.

The greatest live stock show ever held on the Coast opened Tuesday at the Lewis and Clark Exposition, at Portland. Stockmen from all over the country made entries. The show will continue for ten days, closing on 29th of September. Premiums aggregating $50,000 have been offered by the management.

In spite of the fact that supervisors of Tulare county turned down the appropriation of $1000 for a stock exhibit at the fair in that county this fall, the directors have decided, upon the request of one hundred and eighty-six stockholders, to have a stock exhibit at the time of the fair. No premiums will be given but it is believed that a fine display of stock will be made.

The annual meeting of the Solano County Sheepmen's Association was held at Suisun, Monday. This association was organized about a year and a half ago by the leading sheep owners of the county for the purpose of providing means of protecting sheep from the ravages of coyotes. The sum of $20 is paid for each coyote scalp. Since its organization the association has paid for fifty-one such scalps.

MISCELLANEOUS.

The great Chino ranch, consisting of 38,000 acres, was sold at auction by the sheriff at Los Angeles, Monday, to quiet title. The Chino Land and Water Company now owns clear 14,000 acres of the land, valued at $2,000,000. It is announced that the company will subdivide a large part of their holdings and sell in ten acre lots.

In the hope of getting some deadly bacterial disease to spread among the grasshopper swarms throughout the State the entomologists of the University of California Agricultural Experiment Station are now studying the pathology of a peculiar plague which has just been reported among the hoppers at Los Banos. At that locality the insects died in great quantities when stricken with the new disease, and when the malady was crudely spread throughout a whole ranch the insect horde was practically wiped out of existence. The insect experts of Berkeley expect to find out the nature of this disease and get it under such control that it can be transmitted to other swarms.

C. H. SESSIONS, ASSOCIATE EDITOR

FEEDING THE HORSE.

From an address made by Dr. H. A. Spencer before northern farmers' institutes some time ago, we quote the following extracts. In speaking of the importance of well cared for teeth the doctor calls for more intelligent veterinary study of that department of the veterinary science. On that point he says:

"In no branch of veterinary science it it more important to possess an accurate knowledge of the conditions which are present in a state of health, as well as disease, than in the care and treatment of the teeth. It is only by a thorough knowledge of the appearance of an organ during health that we are enabled to distinguish any deviation from that condition.

"Horses of all ages suffer more or less from long, sharp and projecting points which are found on the molar teeth. They are located on the inside of the lower and outside of the upper grinders, and occasionally also on the inside of the upper ones; they vary in size and shape, some being small and blunt, while others are long, thin and very sharp. The injuries they inflict are lacerations of the cheeks and tongue, and a limitation of the lateral motion of the jaws; unless this motion is extensive enough to permit the whole crown of the tooth to come in contact with the food to be ground, much of it will not be reduced to a proper consistency. Other difficulties also arise, such as decay, ulceration and malformation.

"As well set a hod carrier to mend a piano or a typewriter as to expect a person unfamiliar with anatomy and physiology to correct the irregularities of so delicate a structure as the mouth

* * *

"How to feed! A horse should be fed with reference to what he is to do. The horse doing slow, but hard and exhausting labor, should be generously fed on grain three times a day, with as much clean sweet hay at night as he will entirely consume, bearing in mind that the hay in this country, unlike the grass product of the prairie States, is rich in grain, therefore much more nutritious, and a less quantity is requisite to satisfy a natural appetite. There is an inclination on the part of most horse owners and hired help to feed vastly more hay than is required, under the mistaken idea that they are being generous to the stock, but horses, if permitted to do so, will develop abnormal appetites, besides often wasting more than they will consume. We have seen that the stomach of that animal is relatively smaller than that of most other animals; this being the case, it is obvious that if permitted, the horse will, even after filling it to repletion, and distending it to an extent that materially limits muscular contraction, continue to force more into it, thus compelling the pyloric orifice to open for the passage of aliment only partially prepared for future adaptation and final assimilation. In addition to this, the distention of the stomach limits by pressure the action of the lungs, thereby curtailing a proper amount of oxygen being absorbed for the clarification of the blood, besides causes a retention of poisonous carbonic acid gas in the system. Neither should a horse be permitted to drink immediately after feeding, as by this course the stomach is filled with a fluid that dilutes the saliva, gastric and other digestive fluids, and washes the contents of the stomach into the intestines, producing looseness and scouring; while on the contrary, if compelled to partake of water before feeding, he has no abnormal thirst and takes only such quantities as is necessary to give proper fluidity to the tissues of the body.

"Under the subject of hay we have in this county four principal varieties, viz: Wheat, barley, oat and alfalfa. Of these I am constrained to believe that the former, if well cured and clean, is by far the most suitable for horses used exclusively for draft purposes. It is rich in fat producing qualities, and, while succulent and wholesome if cured carefully, and not too green, seems to assimilate nicely, but the consumption of it by driving horses does not seem fruitful of a condition of fitness for road purposes, as does that of either oat or barley hay. Oat hay of good character appears to be the most satisfactory provender we possess for road horses; the chief objections to barley hay is the annoyance that the beards produce in making the mouth sore, and that it is so rich in fibrin producing elements that some individuals become afflicted with skin affections which prove very refractory and troublesome. Alfalfa hay, I think, is of more value for brood mares, colts and unused horses, than for other purposes. It has good milk and fat producing qualities.

"Economy sometimes dictates a carefulness akin to stinginess in feeding. In cases where one's finances compel extreme caution, it were best to expend what money we have to spare for the best products we can procure, and then cut and moisten the hay, which by the addition of a little bran and middlings well stirred, makes a cheap, effective food, a measurably small quantity of which, fed fresh and unfermented, makes strength and satisfies the appetite; but some uncut hay should be used in conjunction, however, very materially less than if the cut mass had not been administered. By this mode of procedure, from one-third to one-fourth of the ordinary expenses of the "keep" of animals may be saved, and their health remain unimpaired.

"Of grain I should say that for driving horses oats are by far the most satisfactory. They seem to have the needed material for bone and muscle building, and do not produce excessive fat, which, in a gentleman's driver, renders him logy, dispirited and easy to fatigue.

"Barley is admissible in the winter months where fat and its consequent warmth is desirable, but under any circumstances during enforced idleness and over Sunday, both hay and grain should be materially reduced. In fact, it were better if the latter were taken away entirely, and a well made mash of bran substituted.

"By observing these last instructions you will undoubtedly save your horses from many an attack of colic, azoturia, lymphangitis and other complications that are frequently fatal, and always call for the expense attending the visit of a veterinarian, to say nothing of the drugs and nostrums you may administer.

"It becomes more manifest to me every year that we feed our stock more hay than they require to keep them in a condition of health and fettle commensurate with their comfort and our requirements, and while it is impossible to lay down any rule that will apply collectively to the horse family, I am led to believe that the ordinary horse that consumes more than fifteen pounds of hay, at either one or at two meals in twenty-four hours, is eating and destroying more than is good for either him or his owner.

"An important feature in the conditioning of horses is grooming and sanitation. One familiar with the difference in the keep of a well-groomed, warmly housed animal, and one that has an over sufficiency of food, but is forced to inhabit an ill-smelling, cold stable, and whose coat

Sharples TUBULAR CREAM SEPARATORS

21 POUNDS MORE BUTTER PER WEEK

Barnesville, Ohio, June 20, 1905: We were milking ten cows May 19. That day we took a Tubular separator for trial. **We used it one week and got 86 pounds of butter that week. The week before** we used it, we got only 65 pounds. **The week after** the agent took it away we got only 64 pounds. We felt we ought to have it. Later we arranged to buy it. We recommend the Tubular to anyone interested in cows. It surely will pay any one to buy a Tubular.
(Signed) LONA and C. W. ACTON.
Write for catalog Y-260. It explains fully.

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

When writing advertisers mention Cultivator.

HAY PRESSES LEAD
LIGHTNING
IN DURABILITY AND CAPACITY
OLDEST AND BEST KNOWN. MANY STYLES.
HORSE OR BELT POWER. GET PRICES AND TERMS.
KANSAS CITY HAY PRESS CO.,
No. 451 Mill St., Kansas City, Mo.

When writing advertisers mention Cultivator.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. W. C. MARBLE, Secretary. J. E. FISHBURN
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

When writing advertisers mention Cultivator.

FLYO-CURO
Will Free Your Stock of Flies and All Kinds of Insects
COTTON SEED MEAL
The "Economic Feed" for Stock
KOW-KURE BAG BALM
HENRY ALBERS CO. 315 S. Main Street Los Angeles, Cal.

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins
CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON
884 James Flood Bldg., San Francisco

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

receives no attention, would be astonished at the difference. We often find horses running to a straw stack, and perhaps a load of carrots or squash is piled up for them. Now, whenever we find these conditions we find a large percentage of the stock afflicted with worms, and the reason is palpable. An insufficiency of proper nutrition vitiates the alimentary tract, and the parasites invade it, for these parasites cannot exist in a perfectly toned digestive tract, while they revel in a disordered one. I do not wish to detract from the value of a few carrots fed ocacsionally to add zest and relish to the stomach, but partaken of as a regular diet I believe them to be pernicious. The matter of economy then resolves itself down to the proposition that we should have only such a number of horses as will properly perform our labor and we can properly care for."

STUDY CONSEQUENCES.

Fifty years or more ago, when a lad working by the month for an old farmer who was a born teacher, we did a piece of corn hoeing in a careless, indifferent way. The old man called our attention to the work and said:

"You hoed that corn with your mind not on your work. You must make a mind study of what you are doing. Always when you are working study the consequences of what you are doing and the way you do it. If you get into that mental habit you will see results loom up ahead of you and you will never work hard for poor results as you did when you hoed that corn."

That was a most valuable lecture to us. It opened a new idea of work. We could see as we studied it that every turn of the hoe was fraught with consequences good or ill to the corn.

A great deal of the work men do on the dairy farm is done without any study of consequences. It is a great gift to be able to foresee the consequences of our acts.

Not long since a neighbor applied to us for advice about his alfalfa. A year ago we advised him to test his seed, but he "hadn't time," he said. A year has been wasted, and all his labor, and only a few spears of alfalfa are shown. It would have taken him possibly a half hour to test the seed. We tested some of the seed he had left over, and one in twenty would grow. He did not study consequences.

Last fall we urged a farmer to build him a well constructed calf stable where he could surround his calves all winter with right conditions for calf growth and development. He turned up his nose in disdain at such ideas; said he knew how to raise calves and all that. He happened to be at the depot when we were shipping a bunch of grade Guernsey heifer calves between six and seven months old. He admired the thrifty appearance of the youngsters and admitted that he had never produced such calves himself. It seemed to jar him when we told him that one great reason for their growth was the warm, well constructed stable they were reared in. These calves sold for $20 each; his calves could be bought easily for $10 to $12 apiece.

Here was a good chance to study consequences. "And so goes the game of consequences to an almost infinite degree."—Hoard's Dairyman.

SILAGE FOR CALVES.

Speaking of the best food for calves, the Jersey Bulletin says:

As a feed for young and growing calves, silage can be used to great advantage. Its succulent properties keep the youngster in a sappy condition which is so essential to rapid growth and development. Its laxative effect upon the digestive tract aids digestion and keeps the calf in a healthful condition. To distend the barrel and increase the capacity of the animal is one of the essential points to look for in feeding the calf, and in this silage has no equal as a winter feed.

Although I know of no actual experiments having ever been performed to ascertain if silage may be fed too heavily for the best results, I am of the opinion that it is often so fed, owing to its bulky nature and lack of dry matter. When fed too heavily the animal can not eat enough other foods, and thus lacks a source of feeding nutrients from which to derive a sufficient amount of nourishment to produce the best results either in milk production or growth. It is a question whether it should be fed in greater amounts than 40 pounds per thousand pounds live weight of the dairy cow.

CAUTIONS TO DAIRYMEN.

Never let the heifer become more than three years old before breeding. Cows which have been bred young are usually good milkers.

Milk set in shallow vessels is more liable to sour than that in deeper ones.

It is never advisable to wash the butter too dry, but avoid leaving too much water in it, as it is then more liable to spoil. A good rule is to have dry butter for storage, and fairly moist butter for immediate use.

Keep the fresh, warm milk separate from the old. It keeps better.

Test your milk. It is not quantity so much as the quality that counts.

If you are buying new milk utensils, see that all points are smoothly soldered.

Soft, white butter comes from hot cream.

Too much sourness in cream causes white specks in butter.

Set milk after milking before it becomes as cool as the atmosphere. The cream will rise better.

Have the milk for the calves sweet and of the same temperature as when it comes from the cow.

Keep the heifer, intended for the dairy, in thrifty, growing condition.

Milk quietly, cleanly, quickly. Cows hate haste.—Montreal Star.

LICE AND MANGE.

Ordinarily hogs are not affected with trouble from lice or mange as much as one might believe. It is a fact, however, that many hogs are affected that are not believed to be. When lice get on the old ones the little pigs are sure to get them later on and trouble will surely result. Little pigs when thus irritated by the biting of the lice are sure to rub against walls and fences in their efforts to get rid of the pest. Their energy is thus utilized and they never have perfect rest. The result is that they cannot grow properly and usually become stunted. Mange is very similar in effect. The hog, in addition, develops a very thick skin and when once developed it seems very much like the shell of a mud turtle. It will not yield, and the pig, apparently, cannot grow, no matter how fed. Now hogs do not seem to develop mange so freely nor breed lice in such great numbers when in an open pasture, and in free access to a mud wallow, but even then these irritants thrive sometimes.

The only way to have complete freedom is to clean up the hogs. This can be done by washing or dipping with a dip that kills these parasites. One of the best methods to follow where the above is not practical is to build a shallow cement or wood tank, say a foot deep, filled with a dip for about four inches. When placed in the hog yard, the pigs take great delight in wallowing in it and in that way are kept clean.

ADVANTAGES OF SILAGE.

The digestive organs of animals that chew the cud are so formed as to require comparatively juicy and bulky food. The cow cannot, therefore, thrive on exclusively dry food so well as can the horse. The nearest an ideal food that can be obtained for the dairy cow is good pasture, but where for more than six months in the year green pasture is not available the best substitutes to use during this period are corn silage and such roots as mangels and turnips. Corn yields an average of twice as much dry matter per acre as do root crops.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, *if not the best* sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the *bull free of charge. I sell on merit.*

C. S. Burgess, Riverside, Cal.

Palm Glen Jerseys

Final Dispersal sale to highest bidder before Oct. 5th of nine head of the cream of Island and American bred Jerseys (see adv. page 253, Sept. 15th issue). Come and see, and get first choice at your own price.

A. B WHITE, PALMS, CAL.

When writing advertisers mention Cultivator.

FOR SALE

Fresh Registered Jersey Cows, Seventy-Five ($75) Dollars each.

Yearling Bulls, Twenty-Five ($25) Dollars each. W. J. COLE, Anaheim, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

When writing advertisers mention Cultivator.

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

When writing advertisers mention Cultivator.

SUNNY SIDE STOCK FARM

Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.

G. A. MURPHY, PERKINS, SACRAMENTO CO., CAL.

When writing advertisers mention Cultivator.

FOR SALE AT

Minnewawa Stock Farm

One pair dapple gray full blood registered Percheron fillies, 2 years old last spring.

One pair well matched gray geldings, 4 years old, ⅞ Percherons, weighing 3000 pounds; well broken to single and double harness.

M. E. & W. N. Sherman, Fresno, California

When writing advertisers mention Cultivator.

Gold Medal Herd

JERSEY CATTLE
SOUTHDOWN SHEEP
BERKSHIRE HOGS

Thos. Waite - Perkins, Cal.

The Rancho Verde Co.

OF

Victorville, California

Will buy thirty (30) head of Milk Cows if price and quality are satisfactory. They must be either Pure Bred Jerseys or Guernseys or high grades of either breed, not under 3 years or over 6 years of age. None to give less than three gallons per day.

When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD

DAIRY SHORTHORN BULLS FOR SALE

Admiral Dewey 183493 and King Edward 184393 at head of herd. Address

Fred Fuller & Bro. Imperial, Calif.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE

Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

FRESNO, CALIFORNIA

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch

Box 321, Petaluma, Cal

When writing advertisers mention Cultivator.

Vaccinate Now

AGAINST

ANTHRAX

AND

BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory

322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

When writing advertisers mention Cultivator.

It is never winter in the cheerful, genial heart.

J. A. CAMPBELL C. W. CAMPBELL

La Palma Stock Farm

We now have some of the very finest registered Poland China pigs of both sexes for sale Also a few registered Jersey cattle, either sex.

Buena Park, Cal.

When writing advertisers mention Cultivator.

SUCCESS

GASOLINE AND DISTILLATE

ENGINES

STAND EVERY TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON

710 N. Main St. - Los Angeles, Cal.

BEEF SCRAPS FOR POULTRY.

Mr. S. H. Church informs us that the Swift's beef scraps and blood flour are proving invaluable as feather and as egg producers at this season of the year. The third car for the past few weeks is now on the road. The growing use of these products is proof of their appreciation by poultry and stock growers. By the way, the blood flour has been found most advantageous feed for young calves and pigs. Pigs grow like weeds when given a small ration of blood flour with their other ration. It is sold in small quantities at 5 cents per pound.

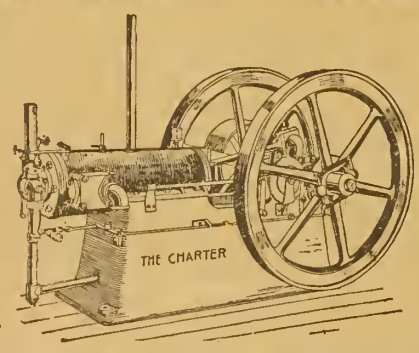
POSITION AS FOREMAN

Young married man, capable of taking position as foreman, assistant or entire supervision of ranch, wishes situation. Citrus or alfalfa preferred. No children, but will want house. Can give best of references. Write, giving wages, to H. J. L., Box 1B9, Alhambra, Cal.

The Green-Marshall Co.

Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles
When writing advertisers mention Cultivator.

ECONOMY IN RAISING WATER



Is possible with a reliable engine. We have a good gasoline engine for little money. Competent engineers at hand to give advice on installation. Write us for information on Gas, Gasoline and Steam Plants.

Pacific Coast Mfg. Co.

126-128 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

CLIFFORD'S ANTI LUMP JAW

Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing **"Clifford's Anti Lump Jaw"**—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.

Our **Hog Cholera Remedy is guaranteed to cure.** Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.

Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our **Chicken Cholera and Roup Remedy** will cure all diseases that the feathered fowl is heir to.

CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

When writing advertisers mention Cultivator.

A Profitable Poultry Ranch

FOR SALE

H. H. Holland, Fresno, Cal , offers the El Oro Poultry Farm, of about five acres, one mile from city limits and one-half mile from electric car line. About 400 mature fowls and 500 young ones, from best strains of birds. A home, a good living, and a margin of $500 to $1500 per year. One-third cash down, balance long time.

Place has growing alfalfa in every yard and several hundred fruit and shade trees. Entire place enclosed in 8-foot wire fence and divided into about 20 yards. I have 4000-gallon water tank, 6-horse-power gas engine, 2 100-foot wells, 4-inch centrifugal pump, brooder house, 2 large brooders, 2 large incubators, incubator cellar, water piped to every yard, 2-story barn, buggy sheds and outbuildings, garden tools, windmill and pump, 8-room house, acetyline gas plant, solar heater.

My reason for selling is want of sufficient time to devote to the business. Address

H. H. Holland, Fresno, Cal.

When writing advertisers mention Cultivator.

Queries and Suggestions

BOARD MEASURE.

Mr. A. B. Gibson, of Ukiah, sends solution of problem of board measure of log 100 feet long and two feet diameter at both ends. The answer which we gave was 2525 feet of merchantable lumber, possible to secure. It seems the question contemplated the entire measure, with no allowance for saw cut nor trimming up of edges, etc. In that case the following is correct. Of course it is not possible to saw out twelve feet of lumber from a cubic foot, though it is actually there before sawing. Mr. Gibson's solution is:

Solution.—A foot of lumber is taken to be one foot square and one inch thick. Therefore: A cubic foot will contain twelve feet of lumber. Therefore: 2 squared x .7854x100x12 equals 3769.92. Therefore: The log contains 3769.92 feet of lumber.

MUDDY WATER.

Editor Cultivator: I bored a well on my place but I find that the water continues to be muddy. Will you tell me how I may get the sand and gravel out of it? The sand is a coarse red material and will not separate from the water easily. I am going to try running it through gravel, but would like your view on same.—A. B. Gibson, Ukiah.

You probably have struck a vein of quicksand and we do not know of any remedy for such a condition, for there is nothing which would prevent the sand from flowing into the well.

BROME GRASS.

A subscriber wishes information regarding the advisability of planting in California the Hungarian Brome grass (Bromus Imermis).

Regarding this, the report on Grasses and Forage Plants, by Professor Wickson, of the State University, says: "This grass was introduced by this station from Europe. The drought-resisting character of the grass was early seen in our experimental plots in Berkeley; and, grown alongside of Schrader's brome grass, has surpassed it in satisfactory growth, being softer and more leafy, and bearing seed which clings more tenaciously to the stems, which are finer than those of Schrader's brome. Under the conditions prevailing in the central coast region of the State, it may be commended as likely to please the grower better than Schrader's. The seed has been widely distributed throughout the West during the last two years by the United States Department of Agriculture, and is now to be had from seedsmen as well. It is worthy of the widest trial."

The United States Department, in Bulletin 12, speaking of stock ranges in northwestern California, says: "Awnless brome grass, though a native of Europe, was introduced into California from New Zealand about the year 1880 by the Agricultural Experiment Station of the University of California. It is a perennial with stout, creeping rootstocks and stems two to five feet high, and is useful both for pasture and meadow. It is a good winter grower. Its nutritive value is comparatively low, but it is well worth trial on the poorer sandy soils along the coast, as it is one of the most promising grasses for such situations. It is unusually resistant of drought, and when once established is somewhat difficult to eradicate. If sown alone, about three bushels is recommended."

However, we note in Bulletin 59, by the Department, that, grown up in the North and Western States, it gives fair results, yet in Southern States it is not satisfactory. This may possibly mean that in Southern California it would not do so well as it may in the Northwest. However, we ask subscribers who have had experience to inform us of its adaptability to Coast conditions.

LEAKING PIPE.

Editor Cultivator: A company of your readers here had a cement pipe put in about a year ago, and it does not hold water as well as it should. Too porous, it was not washed with c
Is there anything you know of that could be thrown in the water and run through that would stop the leakage? What effect would bran have on it?—S. F. and P., Redlands.

We do not think that bran would have any permanent effect on stopping leak though it does work, of course, in the case of casks or barrels, to stop the immediate leak until they can swell up as a result of soaking of the water. It will probably be impossible to get the best results out of such a pipe and it is, indeed, unfortunate that it was ever put in without being washed inside with a solution of pure cement. If the pipe is fairly straight and not too long, it is barely possible that a stout cord or wire could be floated through and attached to a bunch of sacks, or other "plug," at the lower end. Then, when the water is all out, by flooding in a solution of cement and water sufficient to fairly fill the pipe at lower end, then drawing the "plug" back, the wash might fill the pores of the pipe so as to prevent future leaks.

SUGAR BEETS AND TOBACCO.

Editor Cultivator: Kindly inform me whether sugar beets will grow during winter and variety most profitable. If not profitable for winter growth, what time in the spring is best? What are the prices per ton and can beets be sold to the sugar factory direct?

Can tobacco be raised with profit in this section?

Please tell me reliable chemist to analyze soil.—Newcomer, Petaluma.

We do not think that sugar beet growing will be attractive in your section as there is no factory near at hand to take the product. In any case, they are not planted during the fall for the purpose of sugar manufacture, though the subsoiling and preparation of the ground often begins during the fall season. Seed planting is several months later. The sale of the beets is made direct to the factory, though usually under contract signed the year before for the season to come, so that when the seed is planted the farmer knows exactly the place of marketing and the price per ton. The price per ton may be $3 or it may be $5, depending upon the sugar content of the beets, distance to ship, etc. The sugar content is largely estimated by the adaptability of the soil, which is usually determined by testing during a period of several years. If you wish beets for stock purposes, you plant almost any time, so your ground is in moist, well-tilled condition. For this purpose, the mangel, or a larger and coarser growing beet will give more than twice as much tonnage as the sugar beet, which is a comparatively small beet.

Regarding tobacco culture in your section, we question whether it will be a commercial success, though it has been grown experimentally in all sections of California and in some places efforts have been made to manufacture in a large way, but this, we believe, has generally been discontinued.

Regarding soil analysis, write the State University, Berkeley, California, and complete instructions will be sent.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

PREVENTION OF ROUP.

"One ounce of prevention is better than a pound of cure," is a wise old proverb that applies to all poultry diseases, but more especially to the dread disease of roup.

I am sorry to say I have already had several letters from poultry raisers telling of a visitation of roup amongst their turkeys or half grown chickens, and asking for advice. Some of the letters end with "please send me a remedy and tell me what caused the disease?" I try to answer these conundrums to the best of my ability, but I wonder how a doctor would reply were he to find a letter in his mail saying. "I have the grippe; please tell what gave it to me and send a remedy."

In my talks on summer work in the poultry yard I have had in view not only getting through the moult in good shape and quickly, but also the elimination of roup and kindred diseases and the building up of a flock of vigorous, healthy fowls, able to withstand sickness and ready to fill the egg-basket in the fall and winter.

Roup is very much like grippe (influenza) in the human family. It is a very infectious disease. It is met at every season of the year, but is more common in the early fall and winter, especially amongst fowls that have been neglected. A hen in the early fall is in an anaemic condition, she is moulting after a long season of laying, a moulting hen is only half clad, is ready to take cold or have indigestion or bowel trouble at the slightest provocation. A hen afflicted with lice is in a still worse plight and if the proper food and care have not been given, she is apt to fall a victim to the first microbe of roup that presents itself.

You all know my recipe for getting eggs: "Comfort, exercise and proper food." These are the three conditions of egg production. The first prevention of roup is "comfort," and the first item of comfort is cleanliness. Fowls with roup almost invariably have lice and the henneries are infested with lice, mites, fleas, etc. The lice carry the roup microbe from one fowl to another. Some scientists say that even flies and fleas carry the infection. I know that the lice go to the fowls' eyes to drink and in that way they can carry the microbe, with the infection, so that one fowl with roup and lice may infect the whole flock.

The first prevention of roup is to get rid of all lice, mites, fleas, for your pocketbook's sake as well as for the comfort of your fowls. The second prevention is freedom from draughts. The fowls' roosting place should have plenty of pure, fresh air, but no draughts. I lost a beautiful cock bird, a first prize winner, years ago, from a hole only as big as a thimble. It was at a time when this part of the country was infested by chicken thieves. Two men, one dark night, got over my back fence and drilled the little hole in one hennery, intending to saw out a panel, our dogs heard and attacked them and the neighbors saw the men running away. That little hole caused the death of my beautiful bird.

A draught of air in this part of the country will give a person neuralgia. It will give practically the same to a hen; cold, and swell-head. Roup commences often from a draught, and the smaller the draught the greater the danger, for it cuts like a knife.

One hot summer the boards in one of my new henneries shrank and unknown to me there were cracks between the boards. An expert poultry man was visiting me. "Several of your cockerels have slight colds," said he; "there must be a draught in their roosting house." And in he went, down on his knees in the hennery. "Come and look for yourself," he called, and I did. I crawled round on my knees, putting my head on a level with the perches, found every crack and knot hole and nailed a lath over each. I gave the cockerels a little tonic and some bluestone in the water, and in two days they were well. If I had neglected these little cracks I might have had a visitation of roup and pronounced the poultry business a failure.

Another prevention is proper ventilation of the houses. I am rather a crank on ventilation. I sleep with my bedroom windows open always and I want my henneries certainly as well ventilated. The "mushroom" houses, which are houses with bottom ventilation, open for six or eight inches all the way round the bottom are good, or houses with one side entirely open (that side away from the night breeze) or a house made of burlap, or of common domestic muslin will have proper ventilation, yet shelter from the night breeze and protect the fowls from fog or dew or rain. Of course, I am speaking of the Pacific Coast climate, especially that of Southern California. Back East the poultry books give directions for double walls lined with paper and stuffed with straw. Here we do not have zero weather to contend with and muslin or burlap is shelter enough.

Another prevention of roup is plenty of succulent green food. An abundance of green food will give immunity from roup. Green food is by far the cheapest food you can give the fowls and keeps them healthy. A well balanced ration will eliminate sickness and in a well balanced ration there must be an ample supply of green food.

Another prevention is clean water. Water is even cheaper than green food, and yet it is astonishing how careless some people are about supplying it. Water is one of the chief carriers of roup. Each yard should be supplied with a separate drinking vessel. I know a gentleman who was ruined by letting the water run through his yards. He had a fine ranch, and kept a small stream of water running all the time through his yards. The ground sloped gently so the water ran down hill through the troughs, one after another. He bought fifty fine young pullets, perfectly healthy he thought, put them into the yard, and within a week his whole flock was af-

LARGEST POULTRY SUPPLY HOUSE IN THE UNITED STATES

MIDLAND
POULTRY FOOD

PER 2 BUSHEL SACK $1.70 PER 2 BUSHEL SACK

TO REDUCE STOCK AND MAKE ROOM FOR A NEW POULTRY FOOD. WATCH FOR ADVERTISEMENT LATER.

Henry Albers Co.

315 S. MAIN ST. LOS ANGELES, CAL.

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

fected with a virulent outbreak of roup. The new pullets had roup, drank from the running water, and, he said every yard was affected and he failed in the poultry business in consequence.

Carelessness in the management of fowls is the usual cause of illness. Next week I will give a number of cures for roup, although "an ounce of prevention is better than a pound of cure."

* * *

EDITOR'S QUESTION BOX.

I am sorry to say that I have lost a letter signed "Grace Jones," and cannot remember the contents. Will the writer give me her address and let me know what it was that she wanted?

* * *

Time of Setting Indian Runners.—(N. E. M., Santa Ana.) If Indian Runner ducks do not lay during September and October, then it is not profitable to set the eggs before April 1st. Is that right?

Answer.—Indian Runner ducks' usual resting time from laying is in October, but young ducks begin to lay at about five months of age, if properly fed, and by judicious hatching in the spring, the young will be laying whilst the old are resting.

* * *

GOLDEN WYANDOTTES—ROCKS.

Editor Cultivator: Will you kindly answer through your paper: How does the Golden Wyandotte compare in size with the Rocks? Where could one get a setting of eggs from the Golden Wyandotte?—J. D. Black, Redlands.

Answer.—The Wyandottes are one pound lighter in weight, according to the Standard than Plymouth Rocks. 2. I do not know, as there are none among our advertisers.

CURING THE GAPES.

I keep wheat soaking in a small bottle of turpentine. If a chick wheezes, snuffles and rattles as though it had a cold, this is the forerunner of gapes. When gapes are unusually violent and fatal a chick may begin gaping without showing these. In such case the chick is nearly always a goner. Carbolic acid will help him if anything will.

Pour a little refined carbolic acid in a spoon, hold it over a lamp, and dense, white fumes will soon arise. Hold the chick's head in these, drawing him away for a second or two to let him catch his breath. Don't let him get his bill in the acid. If you look at the acid in the spoon before you pour it back in the bottle you can often see the tiny red worms that the fumes made the chick cough up. Five cents' worth of acid will doctor dozens of chicks. If the chick is only coughing, two or three grains of the wheat or a tiny piece of assafetida may cure him. If he is still wheezing the next day repeat the dose. I never failed to kill a chick that I gave both carbolic acid and turpentine in one day.—American Agriculturist.

VALUE OF THE INCUBATOR.

The incubator is a great machine and the few poultry raisers who do not own one now will at some time in the future. The machine is a better money-maker than the hen. The incubator will not be driven from the nest by mites and lice; it won't get contrary and decline to set; it doesn't get foolish and smash the eggs, smearing the nest so that the unbroken eggs won't hatch, and it does not sit long enough to hatch one chick out of twenty and go off with it, forgetting to come back to hatch the rest. —Farm Magazine.

THE TAIL TELLS A TALE.

There seems to be a significant relation between the tail and the body type of some of our animals. The dairy animal has a long tail with heavy brush, while the tail of a beef animal is short and almost without brush.

The race horse has a long, heavy tail, but the draft horse has a stubby tail with very scant covering.

The egg type hen has a big tail and the meat type hen has practically no tail.

I never had opportunity to measure the tails of bacon and pork hogs to see if they averaged any different.

Anyone can observe the differences I have cited. Who can account for it? —Kimball's Farmer.

TO KILL MITES.

To kill the mites mix air slaked lime and kerosene oil and put on roosts with a brush.

If you want your chickens to be up to weight at show-time, if you want them to have large, blocky frames that will hold lots of meat and fat, feed them green food every day of their lives after they are two weeks old. This presupposes that you also feed them sound, wholesome grain every day, with occasionally a feed of fresh cut bone or meat.

The flavor of hens' eggs is declared by an English medical man to be very materially affected by food. When the hens act as scavengers their eggs are made unfit to eat, but a diet of sun flower seeds produces remarkably fine and sweet eggs.

If a hen lays three eggs a week she will give double the profit derived from a hen that lays two eggs. The greater the number of eggs the cheaper the cost of production in proportion.

With poultry for fattening purposes solely, grain should be fed almost exclusively and the mere fattening process should not take more than ten days or two weeks, for poultry, or in fact, any kind of meat, fattened quickly, is much more juicy, tender and appetizing than that which has been fattened slowly.

Be careful in adding extra fowls to the flock as it is quite difficult to detect diseases without a close examination.

When beginning to raise capons, get a set of instruments and practice on dead fowls. In a short time you will be able to operate on live ones. For capons raise only the larger breeds.

Don't let the young poultry shift for themselves. Keep them growing through the summer and fall. Provide perches for the chicks, don't let them sit in piles at night.

The cheapest and best of all feeds for poultry is sunflower seeds. Egg production always increases as soon as sunflower seeds begin to mature. They are not fat producing, like corn, hence laying hens can have free access to them.

Send your poultry to roost with a full crop.

White Plymouth Rock Poultry Ranch
Write us your wants.
J. T. DAVIS, Prop. POMONA, CAL.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

WIRE FENCE
CLOTH GOODS — NETTING WORK — BARB WIRE
HOG — COW — HORSE — SHEEP
WEST COAST WIRE & IRON WORKS 19 FREMONT ST. SAN FRANCISCO
When writing advertisers mention Cultivator.

Standard Bred S. C. White Leghorns
EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.
CAPTAIN MITCHELL SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator
When writing advertisers mention Cultivator.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks for shipment to all points within sixty hours' travel of Petaluma. July, August and September the best months to hatch chicks—they will commence to lay in the winter months. Place your orders at once for this season's hatch. We also supply White Leghorn eggs for hatching. Prices on application. WRITE FOR CATALOGUE B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

EGGS WANTED FOR HATCHING
Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.
YOUNG CHICKENS AND TURKEYS WANTED
We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.
BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations
Don't believe all we say, but just enough to buy our Poultry Foods
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.
When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.
When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT — **Calfalfa Meal** — ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings, or Oil Cake Meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET
Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application

MILLS West & Nielsen Aves
California Stock Food Co.
FRESNO, CAL.
OFFICE 121 Forsyth Bldg.
When writing advertisers mention Cultivator.

CULLINGS.

Generally, when the time for culling young stock comes, the experienced breeder has a great advantage over the beginner. The former can tell at an earlier date the birds that will be profitable to keep over; the latter must learn by experience.

If there be anything to hinder your charring wood and breaking it in pieces about the size of a grain of corn or smaller, parch the grain occasionally.

Don't feed tonics even during moulting time. They stimulate for a time but do no real good.

Give a mash consisting principally of cracked corn with plenty of cool water, shade and whole corn.

If there is danger of prowling animals provide screens of poultry netting for both doors and windows.

Sunflower seed is among the most valuable of all the moulting foods. Fed even in very small quantities it is of great assistance in producing new plumage and aids the dropping of the old.

Do not allow the young chickens to crowd in their sleeping quarters at this time of year. They very soon outgrow the brood coop and should have roomy quarters with wide flat roosts. Crowding now is laying the foundation for colds and roup.

If you are crowded for space but still desire to keep chickens, try bantams. They stand confinement as well as canary birds and pay as well in proportion to the expense of keeping as any of the larger fowls. There are enough different varieties of fowl to suit any taste.

Throw some river sand or gravel in a sunny corner of the chicken park. The poultry will enjoy a good sunning and a dust bath.

For constipation in your flock give a sprinkle of red pepper in the food. When the bowels are loose use black pepper. Keep plenty of clean water where the poultry can get at it all hours of the day.

Give the poultry a pan of buttermilk or thick skim milk occasionally.

CONSISTENT COWS—ALFALFA PASTURE.

Our cows are so consistent that after it is written once it is merely a matter of repeating. So far as feed is concerned, the one word "alfalfa" covers the entire ground, as we never grain after the first of April. Our cows run on the alfalfa pasture both day and night, and get some alfalfa hay morning and evening, as soon as we finish milking. I suppose most of the eastern dairymen would have an attack of heart failure if their cows were to get into a field of alfalfa two feet high; but we turn our cows into such feed. By the way, tomorrow morning the fourth cutting of alfalfa will begin to fall. How is that for a feed-producing country?—J. G. Stahl, Bakersfield, in Jersey Bulletin.

"THE AGE LIMIT" FOR DAIRY COWS.

The Montreal Star says: "After a cow passes much beyond nine years of age, she begins to deteriorate." This is not always the case, and it depends on the breed, too. Dairy-made cows don't stop at nine. Many good cows go to fifteen and then some, if properly treated.—Jersey Bulletin.

TURPENTINE FOR SWOLLEN UDDER.

A writer in Hoard's says: I use turpentine for swollen udders. If applied as soon as discovered, will reduce all inflammation inside of twelve hours and save it perfectly. Fill the hand and bathe part or whole udder as it happens to be, and if the cow is cold apply to ears, back of head and whole length of back. In bad case, also to stifles if swollen. It will reduce it in twenty-four hours, and is a great deal better than any liniment to be had.

I use it also for bruises on human flesh, especially prick with nails.

Apply to bottom of horse's feet for soreness, stone bruises and hard hoofs. I use also salt and water for dry hoofs, but never put any kind of grease on horse's hoofs.

MAKING OF CHEESE.

For the production of large quantities of cheese of uniform excellence it is believed the American factory system, common to the United States and Canada, is superior to anything elsewhere, and more systematically and economically conducted. The average Cheddar cheese of the Cheddar valley itself, of Somersetshire in general, and of the best producing districts of England and Scotland, are no better than those of New York and Wisconsin and the best of Canada. In variety and fancy cheese this continent can not yet attempt to compete with the old world.

COW POX.

In cow pox and diseases of the udder that are sometimes mistaken for it, the proper precautions should be used in order to prevent the milkers from spreading them. After milking a cow, the milker should wash his hands in a one per cent water solution of formaldehyde. The stalls may be cleaned by spraying or washing with a solution of bleaching powder (chloride of lime), six ounces to the gallon of water. Apply the following liniment to the udders of the affected animals after each milking: Olive oil thirty parts, and carbolic acid one part. White lotion (lead acetate) four ounces, zinc sulphate three ounces, and water one gallon, is very useful in case the udder is irritated and sore.

We hear a great deal now about breed type and characteristics, and it is right that breeders should pay attention to these things. But first and foremost the form and function that produce the most profit must be observed. We have seen breeders, in looking over pure bred animals—hogs for instance—entirely ignore a broad back, well filled hams, good length of body and strong, clean bone, and talk long and loud against the animal because one hind foot was black when they would rather have had it white to conform to the ideal marking. We agree that for a pure bred animal it would have been a good thing to have had it just right, but of the two—a white foot or a profitable meat-making form—we would certainly have greater admiration for the form. Usefulness must be the first requirement.

HER COMPREHENSIVE GLANCE.

Mr. and Mrs. Ferguson were passengers in an elevated train.

It whizzed past a house that was brilliantly lighted.

"I wonder what was going on there," ejaculated Mr. Ferguson.

"It was a wedding," replied his wife. "Didn't you see them standing before the preacher? The bride was in a white gown. The groom was in full evening dress. The bride wore a robe of chiffon cloth with bertha and yoke of duchesse lace on the bodice and lace flounce on the skirt. She had a full length tulle veil and carried a bouquet of lilies of the valley. Where were your eyes?"

Mr. Ferguson, realizing his utter worthlessness, resumed the reading of his paper and said nothing.—Chicago Tribune.

THE BEST WAY TO MAKE HAY.

The old adage about making hay while Old Sol is looking pleasant has a deal more of truth than poetry in it and just so to the practical farmer the smell of new mown hay suggests more than the pleasing sentiment of poetic fancy. Instead of breaking his back stacking hay or throwing it loose in a loft where it soon loses its sweetness, he puts it in bales and stores it away for future use or to sell at the most favorable market price.

Among the different hay presses manufactured for this purpose the line built by J. A. Spencer at Dwight, Ill., deserves special attention. Mr. Spencer manufactures several types of hay press, each of which possesses distinctive features which make it specially adapted to the purpose for which it is intended. Anyone sending a request to J. A. Spencer, Dwight, Ill., will be furnished with an illustrated catalogue fully describing these excellent machines. Mention the Cultivator.

Friendship, love and piety ought to be handled with a sort of mysterious secrecy; they ought to be spoken of only in the rare moments of perfect confidence, and to be mutually understood in silence. Many things are too delicate to be thought; many more, to be spoken.—Novalis.

THE JUBILEE POULTRY JOURNAL

A "Worth-while" Journal devoted to the Poultry Industry of the Pacific Coast. A Journal radically different, up-to-date and aggressive, advocating the cause of Better Poultry and More Profit.

Unusual contributions of great value, unusual competitions designed to stimulate, cultivate and educate the poultrymen to reach a greater success,—it is "Worth while," worth YOUR while and you should subscribe.

Write for Announcement and for sample copy, or better still, send your subscription—50c yearly.

Active agents wanted, splendid proposition. Advertising rates on application.

Jubilee Publishing Company
SUNNYVALE, CAL.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $4.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

NATURAL HEN Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

A Visit to the Large Packing Houses in the Eastern Cities

In Three Chapters.==Part I.

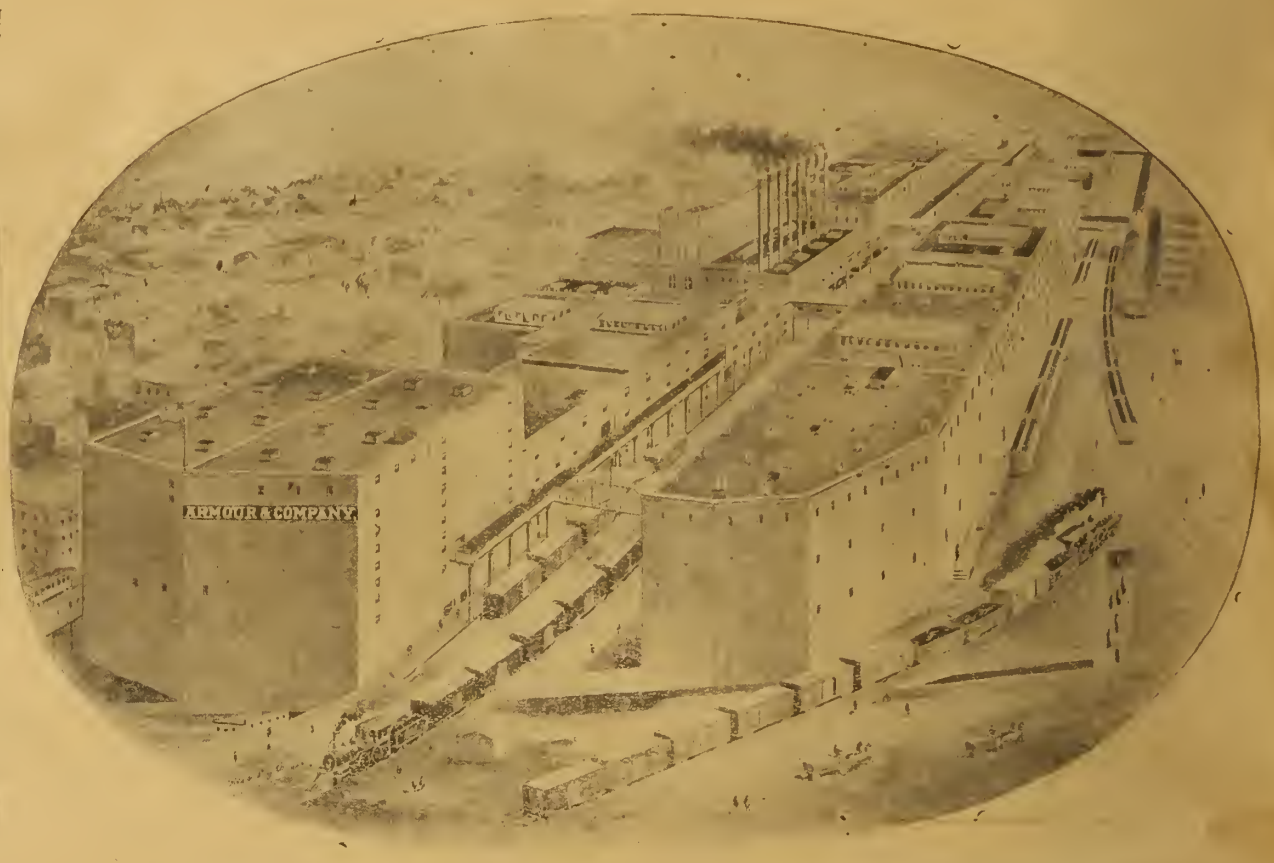
WILL HAVE BRANCH EAST.

Mr. A. R. Coulson, president of the Coulson Poultry and Stock Food Co., arrived home from the East on Saturday evening. Mr. Coulson had quite an extensive trip, stopping over a day or two at each of the following cities: Salt Lake City, Denver, Lincoln, Omaha, Kansas City, St. Louis, Chicago, St. Paul, Minneapolis, Spokane, Seattle, Tacoma, and also a week at the Portland Fair.

The Coulson Company is planning to establish another factory in Omaha, which will be a large institution. (From Petaluma Argus.)

Few people realize the magnitude of the packing house industry carried on in the east. Mr. Coulson's visit to the plants of the Armour Company and a few photographs taken of some of the principal parts, which we reproduce herewith, will give the reader some idea of the immense number of animals killed every day by the Armour Packing Company; and this is how they get so many hearts and livers to make the Heart and Liver Meal (animal meal) used in making Coulson's Special Dry Chick Food, Coulson's Egg Food, etc.

Mr. Coulson first visited the Armour Packing Plant at Omaha (see illustration.) Here they have a number of immense buildings, each occupied for different purposes and in their office building there are several hundred clerks taking care of the books and correspondence, etc., and an army of some 4000 men employed about the plant.



SHOWING PLANT OF ARMOUR PACKING CO. AT OMAHA, NEBRASKA.

HOGS COMING OUT OF SCALDING VAT AND SCRAPING MACHINE AND FIRST PROCESS OF DRESSING.

Mr. Capune, manager of the Animal Food Department, took the writer through the various departments, showing how the animals were killed, dressed, etc., all of which was very interesting. In one pile there was about 5000 hearts taken from the pigs and cattle that were killed that day, these hearts were cooked in a large steel tank that reached from the first floor to the fourth floor, and there were immense furnaces in the basement that heated up these tanks and cooked the meat therein. After the hearts were thoroughly cooked, then they were taken out and put into long boiler-like tanks, which had big revolving screws running through the center, and which kept stirring up the hearts until they were all crumbled up into a fine meal. These tanks were also heated up by furnaces underneath, so that the hearts were again thoroughly baked and dried. At the end of two hours the hearts were converted into a dark yellow meal, as dry as powder.

This Heart and Liver Meal is put in bags and every few days, or as soon as a carload is accumulated, it is shipped to the Coulson Poultry & Stock Food Co., at Petaluma, California, and is used in preparing **Coulson's Egg Food and Coulson's Special Dry Chick Feed.**

This Heart and Liver Meal is **great food to make chicks grow.** The Coulson Company uses lots of it in making Coulson's Egg Food, and Special Chick Food. There are many differ-

PROCESS OF KILLING AND SCALDING HOGS AT ARMOUR'S

Process of cleaning and dressing hogs. Also U. S. Government inspection and view of the chill room at Armour's.

ent poultry foods on the market, but the Coulson Company is the only firm that goes to the expense of getting such good material and they have the exclusive contract with the Armour Packing Co. for the Hearts and Liver Meal. No other firm can get any of it; therefore no other Poultry Foods are like Coulson's.

If you want success with poultry, feed the pullets and hens **Coulson's Egg Food** and feed the baby chicks **Coulson's Special Dry Chick Feed.**

Ask your dealer for Coulson's. Send to us for free poultry account book.

In the next issue we will tell about the Kansas City plant.

AT ARMOUR PACKING CO.

Loading cars of 400 sacks of Armour's Meat and Blood Meal for Coulson Co. The meat meal is made from hearts and liver, baked to a crisp and ground fine. The Coulson Co., Petaluma, Cal., has a contract to take the entire product of this meat meal and it is used in preparing Coulson's Poultry Foods. Ask your dealer for Coulson's Egg Food and Coulson's Special Dry Chick Feed.

Feed the Chickens Coulson's Feed

There's Nothing Better

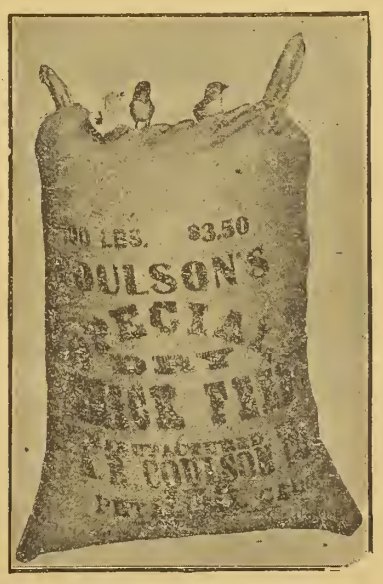
PHOTOGRAPH SHOWING

A HUNDRED THOUSAND BAKED AND DRIED HEARTS AND LIVERS

These are ground up into small pieces and used in mixing COULSON'S SPECIAL DRY CHICK FEED AND COULSON'S EGG FOOD.

A sack of Coulson's Egg Food.

A mixed feed for chickens to make the hens lay lots of eggs. This feed is composed of about three-fourths ground grains or mill feeds and nearly a quarter of animal meals, that is fresh, fine ground bone, dried blood and the heart and liver meal.



You will have the best success you ever had in raising chickens if you will feed COULSON'S SPECIAL DRY CHICK FEED. Send for sample. It's good for turkeys as well.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

FOUR T'S.

There are four T's too apt to run,
'Tis best to set a watch upon:

Our Thoughts.
Oft when alone they take them wings,
And light upon forbidden things.

Our Temper.
Who in the family guards it best,
Soon has control of all the rest.

Our Tongue.
Know when to speak, yet be content
When silence is most eloquent.

Our Time.
Once lost, ne'er found; yet who can say
He's overtaken yesterday?

THE DOG'S COLD NOSE.

When Noah, perceiving 'twas time to embark,
Desired the creatures to enter the Ark,
The Dog with a friendliness truly sublime
Assisted in herding them. Two at a time
He drove in the Elephants, Zebras, and Gnus
Until they were packed like a boxful of screws—
The Cat in the cupboard, the Mouse on the shelf,
The Bug in the crack. Then he backed in himself;
But such was the lack of available space,
He couldn't tuck all of him into the place;
And so, though the rivers rushed over the plain
And down from the heavens fell blankets of rain,
He stood with his muzzle thrust out through the door
The whole forty days of that terrible pour!
Because of which drenching, the Sages unfold,
The nose of a healthy Dog always is cold.

—N. Y. Times.

The Fate of a Rescue Party.

Gertrude Ellerton looked at the girl who had just announced her intention of stopping for the night with dismay in her heart, if not in her face. Constance Farrar was her very dearest friend, and she couldn't remember a single other time when she hadn't been glad to see her; but when one is planning to elope at 10:30 with some one a good deal dearer than even a dearest friend one naturally views with distinct disfavor the advent of an all night guest.

Gertrude put in a very bad quarter of an hour, during which she said sweetly hypocritical things to Constance and tried to decide what to do. In the end she made a virtue of necessity and confessed.

Coustance was surprised and pained, for she was very fond of Gertrude.

To remoustrate would, she well knew, be worse than useless. She could not report to Papa Ellerton, for the far-seeing Gertrude had prudently sworn her to secrecy. And naturally it was physically impossible to forcibly detain her misguided friend under the paterual roof.

Clearly the situation was one calling for tact and diplomacy, and that of a Machiavellian order. Constance, under pretense of examining the photos on the mantelpiece, set the clock back an hour, Gertrude, nervously putting various articles of wearing apparel in a trunk, and guiltily afraid of interruption by her mother or her small sister or her middle-sized brother, was comfortably unconscious of the sudden flight of time backward.

Once, to be sure, she glanced at the clock and remarked with puzzled frown that "it seemed later than that."

But Constance promptly and smoothly suggested that that was because "You're so anxious to see him, dear." And Gertrude unhesitatingly accepted the plausible explanation.

When the hands of the clock pointed to half past 9 Constance put on her wraps and kissed her friend.

"I really must not stay another minute," she said. "If I'm here when you go your mother never would forgive me; she'd think I ought to have stopped you. Goodby, dear, and good luck."

When the street door closed behind her, Constance pulled the high collar of her fur jacket well up about her face and started resolutely for the corner where she knew an impatient lover and a closed carriage were awaiting the misguided Gertrude. She shivered, but less from cold than from nervousness. For despairing of all other means of saving her friend, she had decided upon an appeal to the gentleman in the case.

Then a man came quickly out of the shadows, and a strong, masculine hand closed over her arm and hurriedly assisted her into the waiting carriage. She had a moment of uncontrollable fright lest his lover's instinct would warn him that he was eloping with the wrong girl.

But it didn't, and with a soft little sigh of relief Constance settled into her place and prepared to repel any proffered familiarity on the part of her companion. But it seemed that there would be none to repel, and she was conscious of a distinct feeling of disappointment and disapprobation. She had had no experience, of course, but she had a woman's instinct of what would have been fitting to the occasion, and she wondered that Gertrude should have selected a man who hadn't the courage to venture even a mere handclasp.

Finally, in sheer desperation, she leaned forward, bringing her face well within the circle of light cast by one of the infrequent electric lamps they passed. To her surprise she found herself staring full into the eyes of her companion. They were very attractive eyes, and seemed somehow to match their owner's smooth-shaven face and square, determined chin.

"What a nice face he has," flashed through Constance's mind. And then, to her unspeakable dismay, she realized that quite involuntarily she had spoken the words aloud.

"Am I to infer," inquired a deep and very pleasant voice, "that you are referring to my face?"

Constance, blushing furiously at the very personal nature of her opening remark, was obliged to admit that the inference was correct. Then she hastened to make bad worse by saying, "You don't look like a person who would elope."

"Of course I wouldn't elope with any one," he said, with the air of a person determined to please even at the cost of veracity. "Except the one girl," he amended hastily, for Constance's uncompromising attitude was a thing to be felt.

"Oh!" said Constance feebly. And the conversation languished.

Irrationally enough, Constance found herself almost liking her companion. But she was angry with him, too. Actually the man had said no word concerning Gertrude; he had not even seemed surprised that she should be taking Gertrude's place.

"I want to speak to you concerning Gertrude," she said.

"Yes?" said the man coolly. "Which Gertrude? Gertrude who?"

"Gertrude Ellerton, of course," snapped the enraged Constance. "I want to know if you think it right for her to elope?"

"Good heavens, no!" said Gertrude's fiance very decidedly.

"Then," demanded Constance hotly, "will you kindly explain why you're helping her to do it?"

"I'm not," denied the man promptly.

"No," agreed Constance scornfully, "just at this moment you're not. But it's no fault of yours, nor hers, either."

The man at her side ejaculated something that might easily have been interpreted as expressive of any one of half a dozen different emotions.

"My dear young lady, would you mind telling me just who you are?"

"I'm Constance Farrar," said the owner of that name, in the tone of one issuing a challenge, "and I'm here to prevent your elopement with Gertrude."

The effect of her words was not precisely what Constance had anticipated. The gentleman at her side, after a heroic but ineffectual struggle, abandoned himself to uncontrollable mirth. Constance glared at him. She was unable to detect any humor in the situation, and she said so.

"You don't see the joke now, of course," he said. "But you're going to. I'm not Raymond Fenton, as you seem imagine. I'm Albert Worthington, and I'm here to prevent your elopement with Fenton."

There was a moment of astonished silence on Constance's part, then she giggled nervously. "Good gracious!" she said, "who would have dreamed of such a thing?"

"It is rather a peculiar coincidence," agreed Worthington, "that the spirit should have moved us both to go into the rescue business at precisely the same time in exactly the same manner. By the way, would you mind telling me how you got here in Miss Ellerton's place?"

"I set her clock back an hour," Gertrude confessed.

"Concidence No. 2," said Albert Worthington, cheerfully. "I juggled with Fenton's watch to precisely that extent.

"I'm most awfully glad," Worthington went on, "that it wasn't you that Fenton had planned to elope with."

Constance blushed again. She felt that she ought to be angry, but she wasn't.

"I say, Miss Farrar," proposed Worthington, "let's go and see them off. First, they'll go to hunt up a clergyman, then they'll show up down at the station. We couldn't miss them even though we tried."

It is really astonishing how well acquainted it is possible for two people to become in a very short time. When they left their carriage at the station Worthington drew Constance's hand through his arm with a manner that was distinctly proprietary. And it was evident that Constance in no way resented the proprietorship.

"We're forgetting," said Worthington, "that we've made them lose an hour and miss their train into the bargain. I suggest that we reconnoiter a bit before telling them."

Constance assented, and from behind a sheltering post, they behild the newly wedded ones. They were seated side by side, oblivious of time or place.

"The great moon-struck idiots," whispered Worthington. "I don't believe they even know they've missed their train."

WANTED

A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address KOCH V. T. CO., Box C, WINONA, MINN.

HELP!

Settle Your Own Country

The Santa Fe is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to

WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

But Constance with shining eyes, whispered, "I'm so glad we didn't stop them."

"Yes," Worthington answered. "But I'm more than glad—I'm thankful that we both tackled that rescue business. Otherwise—," His tone and eye were eloquent.

He gave Constance's arm a quick, light pressure. "With your permission," he said, "I'm coming to call tomorrow, and, the day after and all the other days, too."

The permission was not withheld.—Denver News.

Cookery Recipes

Cucumber Pickles and Preserves—The cucumbers must be ripe for both these preparations. For the pickles, peel the cucumbers, remove all the seeds, and slice the cucumbers in long thin slices. Put them into salted cold water for 24 hours. Then remove from this water, drain, place in cold fresh water for four hours. To every eight pounds of the cucumbers, use two pounds of sugar, one pint of vinegar, one ounce of cinnamon, one-half ounce of allspice, one-half ounce of mace, one-half ounce of ginger root. Mix these spices well together. They should all be ground spices. Tie them in little bags, heat them with the vinegar and sugar. When the syrup is hot put in the cucumbers, place on a large dish and pour over them the syrup. The next day heat the syrup only to boiling and pour again over the cucumbers, Repeat this for four mornings. The last day, boil both syrup and cucumbers together and seal in jars.

If the pickles are desired less sweet omit one pound of sugar and more vinegar can be used.

This recipe can be used for peaches, pears, quinces, watermelon rind, plums, etc.

For the ripe cucumber preserves prepare the cucumbers as in the other recipe, but omit the vinegar and increase the sugar to four pounds of sugar to eight of the cucumbers and be careful to boil the syrup so as to reduce if it should seem at all thin, and at the last time of boiling seal up the cucumbers while hot.

* * *

To Can Pumpkin.—To can pumpkin, wash the pumpkin, cut into pieces, cook in water until the rind seems soft, remove from fire, drain; when cool enough to handle comfortably, remove the rind, return the pumpkin to the stove and cook until it is perfectly soft and the water seems all out of the pumpkin. Stir well so that there are no lumps and add a little salt. Have your glass jars and covers well sterilized with boiling water and hot. Fill with the pumpkin, stir with a silver spoon around the inside of the jars after they are filled, so that no air is left in the jars, fill perfectly full and seal. Leave them bottom sides up in the warm kitchen for 24 hours, then if they seem perfectly air tight, put in a cool dark place. Squash can be canned, and is very useful as a vegetable in winter.

* * *

Sweet Potato Pie.—Make a good paste (it need not be as rich as puff paste), line the pie dish, which must be a deep one. Wash and parboil two good sized sweet potatoes (I think one pint of the potatoes after they are grated), when they are cold, grate them. eBat together until very light 1 tablespoonful of butter, ½ a cup of sugar and the yolks of 3 eggs. Add to this mixture 1 cup of rich milk, 1 teaspoonful of cinnamon. Fill the pie dish and bake the pie for 30 minutes or until the custard seems firm; then whip the 3 whites of the eggs until light, add 2 tablespoonfuls of sugar, spread this over the top of your pie, return to the oven long enough to make the meringue a light brown. If you do not care for the meringue use the whites of the eggs with the yolks in the pie.

* * *

Irish Potato Pie.—Line a deep pie dish with paste. Mix together 1 pint of mashed potatoes, made very smooth, seasoned with a little salt and butter and ½ a teacup of cream, ½ a cup of butter to the mashed potatoes while they are hot; when cool add the juice and grated rind of 1 lemon, 1 tablespoonful of brandy and 3 eggs well beaten. Mix together and fill the pie dish, bake 30 minutes or until the pie seems cooked.

HOMELY HINTS.

Dry Cleaning Hints.—Cleaning with gasoline can be successfully accomplished at home, if great care is taken in its manipulation. A silk waist, or a dress must first be thoroughly shaken, so that no dust remains in the material. You need a quantity of gascline so the garment to be cleaned can be all covered and worked up and down in the gasoline. Do this until the garment looks quite clean, then rinse it in an equal quantity of gasoline and hang the garment in a current of air to dry quickly. The odor will soon vanish and your garment look fresh and clean. The gasoline used should be strained and bottled, tightly corked, for future use.

I saw a tailor gown of heavy broadcloth treated in this way at home and the result was satisfactory.

Professional cleaners use soap, washing the garments in gasoline and castile soap, or any pure white soap. Try a little bit of the goods first. Thrifty housekeepers may take advantage of this knowledge.

But a word of caution. Use the gasoline in a room where there is no fire.

* * *

If your picture frames have become tarnished and have lost their fine appearance from dampness and the flies, they can be restored by taking the white of an egg, beating it a little and applying it to the frame. If the frame is badly fly spotted, use alcohol applied to the spots by a soft brush, then rub the spots gently with a soft, clean cloth. If the gilding is very dull, it may need to be washed over with a weak solution of lye and water, not too strong or the gilding may come off. Dry the frame with a piece of clean linen at once after applying the lye and water solution.

Soap and chalk mixed together and rubbed on spots of mildew will remove them.

Borax will drive away ants from the pantry shelves if sprinkled freely on the shelves.

Try two drops of camphor on your toothbrush when cleaning your teeth in the morning. You will find your mouth after with the freshest, cleanest possible feeling imaginable and your gums rosy. The camphor prevents cold sores also.

If your lamp is oily on the outside, a most annoying thing, look and see if the wick is turned down below the burner. If it projects above the burner the oil is bound to feed it and it must run over the surface if unlighted.

PICNICS OF THE FUTURE.

"Let us suppose a railway to have been built between the earth and the fixed star Centauri," said a lecturer. "By a consideration of this railway's workings we can get some idea of the enormous distance that intervenes between Centauri and us.

"Suppose that I should decide to take a trip on this new aerial line to the fixed star. I ask the ticket agent what the fare is, and he answers:

"'The fare is very low, sir. It is only a cent each hundred miles.'

"'And what, at that rate, will the through ticket one way cost?" I ask.

"'It will cost you $2,750,000,000,' he answers.

"I pay for my ticket and board the train. We set off at a tremendous rate.

"'How fast,' I ask the brakeman, 'are we going?"

"'Sixty miles an hour, sir,' said he, 'and it's a through train. There are no stoppages.'

"'We'll soon be there, then, won't we?' I resume.

"'We'll make good time, sir' said the brakeman.

"'And when will we arrive?"

"'In just 48,663,000, years.'"—Exchange.

WHAT BOYS SHOULD LEARN.

There are a great many things boys, while boys, should learn. And if they learn these lessons so well as never to forget them during life, they will prove of great help to them oftentimes when they need help.

Among other things boys should learn, these may be named:

1. Not to tease boys and girls smaller than themselves.

2. Not to take the easiest chair in the room, put it in the pleasantest place, and forget to offer it to mother when she comes in to sit down.

3. To treat mother as politely as if she were a strange lady who did not spend her life in his service.

4. To be as kind to their sisters as they expect their sisters to be to them.

5. To make their friends among good boys.

6. To take pride in being a gentleman at home.

7. To take mother into their confidence if they do anything wrong, and, above all, never to lie about anything they have done.

8. To make up their minds not to learn to smoke, gamble, or drink, remembering these things are terrible drawbacks to good men, and necessities to bad ones.—The Glenwood Boy.

CONFIDENCE OF OTHERS.

A girl who has been taught by her mother to respect the confidence of others learns at the same time how safe her own will be in her mother's loving care. In the desire for complete confidence between mother and daughter, neither should forget that a due reserve is both necessary and desirable in regard to the confidence of other people. No girl should repeat, no mother listen to anything which has obviously been said to the girl alone. Besides, a desire for unlimited confidence is a sign of weakness on both sides. A certain amount of reserve is the hall mark of all strong characters.

FACTS FROM THE BUSY WORLD.

The population of the world is now estimated to be 1,503,300,000.

Waste leather is no longer thrown away. Manufacturers use it, in compressed form, instead of iron, to make cog wheels.

The Ambidextrous Society, of London, has been formed with the object of encouraging people to use both hands with equal facility.

NOT WEBSTERIAN.

"Yep," answered Paul in school one day; and when his teacher heard
His strange response, to punish him, she bade him seek the word
Within the dictionary. After she had let him grope
In vain for it, she asked him, "Is it there?" And Paul said, "Nope."
—Woman's Home Companion.

Delicacy is to the affections what grace is to the beauty.—Degerando.

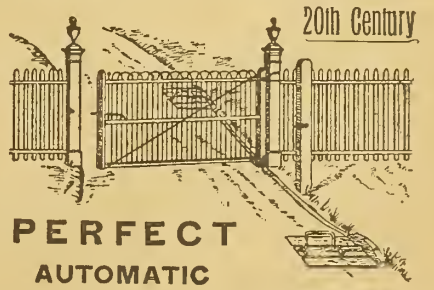
ABOUT ANTS

Troubled with them? Apply K. A. P. freely wherever they are seen to travel and they will disappear within 24 hours. Sent prepaid, by express, only, 40 cents.

KELLOGG'S ANT PASTE CO.

1010 E. NINTH ST., LOS ANGELES, CAL.

When writing advertisers mention Cultivator.



20th Century

PERFECT AUTOMATIC GATE. 20 STYLES.

Money Refunded If not satisfactory or as represented. ***Works 365 days each year. NO OILING***—ten minutes each year and 10 to 20 cents expense—***no more.***

Enclose 3c stamp for 68 page catalogue.

The Lloyd Co., Inc.

Petaluma, California

THE SMILE

THAT WONT COME OFF

Is always worn by the THRIFTY HOUSEWIFE who uses a

WHITE LILY WASHING MACHINE

Send us the name of your Hardware Dealer and get a WHITE LILY on 30 days trial—FREE

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

When writing advertisers mention Cultivator.

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES

Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

PEAR BLIGHT.

(Continued from First Page.)

blight bacilli to the terminal flower cluster on the smaller or outer branches, which, if affected, may be removed without serious loss of wood. These two steps embody the essence of the Waite method, which has been successfully practiced by Dr. Waite not only upon his own orchard in Maryland, but in various others throughout the country, on which he has experimented. If carefully followed, there is a reasonable prospect that anyone may succeed in time in freeing even an old orchard from blight by severe pruning and the re-establishment of the trees in the manner stated, while it is much simpler to keep a newly-set orchard permanently free from serious injury. Yet in either case there must be more or less isolation of the plat from outside sources of infestation.

6. **Burning Refuse.**—Since the germs retain their vitality for a long time, care must be taken to burn systematically and thoroughly all pruned wood and leaves and to keep the orchard at all times free from them.

7. **Sterilizing Implements**—Also, as the bacteria are readily communicated by inoculation, it is advisable, if not necessary, to sterilize the pruning shears and saw after each amputation, that the germs may not be communicated to the healthy tissue on another limb or on another tree. Sterilization may be effected by dipping the tool in a 5 per cent solution of either carbolic acid or formaldehyde, or by wiping the blade with a cloth dampened with the solution.

8. **Spraying**—Spray the trees, just as the buds begin to expand, and once a week thereafter for four or five sprayings (except during the actual blooming period) with Paris green for the destruction of the Diabrotica, which, it is believed, assists in spreading the bacteria. Use 4 ounces of the arsenite to 5 pounds of lime and 50 gallons of water, or, preferably, mixed with 50 gallons of Bordeaux.

THE BEAUTIFUL CAMPING SECTION.

The Cultivator has often spoken of a productive and beautiful section to the north of San Francisco, within a short distance of the California Northwestern Railway. We note that the section during the past summer has had a great many visitors from San Francisco and vicinity. This is especially true of the Russian river section, some seventy-four miles from San Francisco, on the Northwestern. This ideal spot for summer homes has been subdivided into large lots, which are offered for sale for from $50 to $150. The section is in close proximity to the best of hunting and of fishing and abounds in delightful drives to various camping sections, both in mountain and along the river. No other section in California affords finer scenery and more delightful climate for summer camping. A card dropped to the California Northwestern Railway, Mutual Life Bldg., San Francisco, will secure information regarding advantages of this section, also of some of the agricultural sections along the line of that railway.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

Los Angeles Markets.

Los Angeles, Sept. 20, 1905.

Butter.

Butter market is stronger. Quotations are still the same but without doubt at the meeting of the Board of Trade on Saturday will advance to 60 cents.

B. of T. Creamery	57½
Valley Creamery, fancy	55@57½
Coast Creamery	50
Fancy Dairy	45½@47½
Cooking, per lb	20@22

Cheese.

Cal. 3-lb. hand	16¼
Cal. Young America	15¼
California Anchor	14¼
Northern	12½@13
Eastern	16
Domestic Swiss	16½
Imported do	27½

Eggs.

Eggs are firmer, with fresh ranch commanding a couple of cents above last week for choice cases.

Eggs, fresh ranch	32
Eastern and Storage	26@28
Seconds	22

Poultry.

Poultry is firm. Turkeys marked up two cents.

Fryers, 2½ lbs	15
Broilers, under 2 lbs, per lb	15
Young Roosters, per lb	15
Hens, per lb	13@14
Ducks, per lb	11
Turkeys, per lb	18@20
Geese	11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	6.00
Prime Steers, cwt	4.00
Cows, cwt	3.00
Calves, cwt	4.75
Sheep, ewes, per head	3.50
Lambs, do	3.00
Wethers, per head	4.00

Potatoes.

Northern, per ctl	1.00@1.05
Locals, per ctl	75@1.12
Sweets, white, per cwt	1.50@1.75
Sweets, yellow	1.50@1.75

Vegetables.

Onions, yellow, per cental	75@1.00
Onions, Silver Skins, sks	50@75
Beets, per 100 lbs	75
Cabbage, per sack	50
Parsnips, per sack	60@65
Bell Peppers	3@4
Cucumbers, per box	35@50
String Beans	2@4
Wax Beans	2@3
Green onions, doz bunches	20@30
Carrots, doz. bunches	25@30
Turnips, doz. bunches	25@35
Garlic	20
Celery, dozen	30@40
Peas, per lb	3½@4
Egg Plant	3½@4
Chili Peppers, green	1½@2
Chili Peppers, dry	11
Tomatoes, local	25@40
Asparagus	8½@10
Parsley, per doz bunches	30@40
Summer Squash, bx 20 lbs	15@35
Green Corn, per sack	75@1.00
Lima Beans	2@2½

Citrus Fruits.

Valencias	$2.00@3.00
Lemons, standard	2.00@2.50
Lemons, fancy	5.00@6.00
Grapefruit	1.00@1.50
Grapefruit, seedless	2.00

Fresh Fruits.

Apples, 4-tier Bellefleur	1.10
Apples, 4½-tier Bellefleur	85@1.00
Apples, 4½-tier Rhode Is. Grn	75@1.00
Strawberries	4@6
Blackberries	7@8
Logan Berries	5@6
Pomegranates, per crate	1.00
Peaches, per box	75c@$1.00
Plums	75c@$1.00
Damson Plums	1@1.25
Figs, per box	25@50
Black Figs	50@75
Grapes, Thompson's Seedless	50@75
Muscats	50@75
Tokays	1.00@1.50
Cornichons	1.50@1.75
Concord, lb	4@5
Pears, Winter Nellis, bx	1.00
Muskmelons, large crates	75c@$1.25
Watermelons, doz	35@1.25
Guavas, per lb	4

DRIED FRUIT.

Dried fruit still stronger, with a half cent advance on all grades of peaches.

Prunes are quoted at 4 cents for Santa Claras, bag basis; other sections ¼c less.

Peaches: ch, 9; ex c, 9½@9¾; fy 10½@11½.

Apricots: st, 7@7¼, ch, 7½, ex c, 8, fy, 9@11.

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	2.75@2.85
Small Whites	3.15@3.35
Black Eyes	2.50@2.75

Nuts.

Almonds, paper shell	18@20
Almonds, soft shell	18@20
Peanuts, California	5@6
Peanuts, Eastern	7½@9
Walnuts, No. 1 softshells	14@15
Walnuts, hardshells	10@12

Honey

Honey, comb, frames	10@15
White strained, per lb	5@5½
Amber	4@5
Beeswax	23@25

Hay.

Barley, new	8@12
Alfalfa, local new	$10@11.50
Alfalfa, no thorn	10@11.50
Wheat, new	10.00@11.00
Tame Oat, new	$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.35@1.40
Barley	$1.00@1.02½
Corn	1.25@1.35

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	$1.30
Feed Corn Meal	$1.55
Middlings	1.40
Wheat	$1.65@1.70
Cracked Corn	$1.50
Corn	$1.45
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

San Francisco Markets.

San Francisco, Sept. 20, 1905.

Dairy.

Although butter quotations are practically the same as last week, there is a strong tendency to demand the very top of the market. Strictly fancy, fresh offerings of creamery not only command the maximum quotation but sometimes a slight premium is offered.

BUTTER—Per lb:

Creamery, fancy	26 @27
Creamery, good to choice	24 @25
Dairy, choice	21 @23
Store	18@19

CHEESE—Per lb:

Cal. Creamery, mild, new, extra	12½ 14
Do, mild new, choice	10 @11
Young America	12½@13½
Eastern	15 @17

Eggs.

Offerings of eggs continue light, especially of first qualities, and everything is quickly picked up at top quotations.

EGGS—Per doz:

Ranch, selected large	36 @37
Ranch, good to fancy	32½@35
Store	Nominal
California storage	25 @27
Eastern, extra	25 @26
Eastern, firsts	22 @24
Eastern, seconds	20 @21

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $5.50@7; Fryers, $3.50@4.50; Broilers, $2.50@$3.50; Hens, small, $4.50@5.50; large, $6@7; Live Turkeys, per lb., 19@22c; Spring Turkeys, 22@24c; Ducks, old, $4.50@5.50; young, $4.50@6.50; Geese, per pair, $2; Goslings, $2@2.25; Pigeons, per doz, old, $1.25@1.50; young Pigeons, $1.75@2.25.

Fresh Fruits.

Apples—Per box, fancy, 90c@$1.35; common to choice, 40@75c.

Figs—Per box, Black, 40@75c, as to size of package; White, 25@40c.

Pears—Per box, Bartlett, $1@1.75; other varieties, per box, 35@75c.

Peaches—Per small box, 35@65c; carrier, 40@65c; open boxes, 50c@$1.

Table Grapes—Per box or crate, Seedless, 60@75c; Muscats, 40@75c; Blacks, 30@65c; Tokays, 65@90c; Isabellas, 65c@$1; open boxes, 50c@$1.25, as to variety.

Wine Grapes—Per ton, Zinfandel, $22.50@27.50.

Pomegranates—Per small box, 75c @$1.

Plums and Prunes.—Per box or crate, 50c@$1.

Cantaloupes—Per crate, 75c@$1.50, Watermelons, per doz, $1@3; Nutmeg Melons, per box, 50@75c.

Blackberries—Per chest, $1.75@3.

Raspberries—Per chest, $4@7.

Strawberries—Per chest, Longworths, $4@7; large varieties, $3@5; Santa Clara, $5@7.

Huckleberries—Per lb: 5@7c.

Cranberries—Oregon, per box, $3@$3.50.

Citrus Fruits.

Citrus Fruits—Per box: Oranges, Valencias, $3@4.50; Lemons, $2@4.50; Limes, $5@5.50; Grape Fruit, per box, $1.75@2.75.

Vegetables.

VEGETABLES—Tomatoes, per box, 25@50c; Green Peppers, per box, Chile, 25@50c; do, Bell, 25@50c; Okra, per box, 25@50c; Beans, per lb., Green, 1½@2c; do, Wax, 2@2½c; Lima, 1@2c; Garden Peas, per lb., 3@4c; Cucumbers, per box, 25@40c; Summer Squash, per box, 30@40c; Egg Plant, per box, 35@50c; Garlic, per lb., 5@5½c; Green Corn, per sack, 50c@$1; per crate, 75c@$1.25; Marrowfat Squash, per ton, $15@20.

POTATOES—Per ctl: River Burbanks, 50@75c; Salinas Burbanks, 75c @$1.10; Early Rose, nominal; Sweet Potatoes, River, $1@1.25; Merced, $1.50@1.65.

ONIONS—Per sack, Yellow, 60@85c.

Dried Fruits.

The high prices prevailing for dried fruits have checked the demand to some extent but dealers are holding firm and the general market maintains

strong tone at firmly held rates. Prunes are strong with offerings scarce.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Prices per lb, f o b Fresno, are as follows: Bleached Thompsons, Seedless, extra fancy, 10½c; fancy, 9c; choice, 8c; standard, 7c; Bleached Sultanas, fancy, 7c; choice, 6c; standard, 5½c. Prices are for 50-lb cases, f. o. b. discount of 1½ per cent for cash.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Hops.

The price of desirable old crop is nominal at 14@16c per lb., according to quality.

Beans and Seeds.

BEANS—Prices per ctl for choice selections of new crop stock: Large White, $2.35@2.60; small, do, $3.25@3.55; Pea, nominal, Limas, $4.75@5.25; Red, $3.50@4; Pink, $2@2.50; Bayos, $3.25@4; Blackeyes, $3.75@4; Red Kidneys, $3.75@4; Horse Beans, $1.30@$1.90.

DRIED PEAS—Prices per ctl: Niles, $2@$2.25; Green $2.25@2.50; Field, $1.75@2.25.

Live Stock.

CATTLE—No. 1 Steers, 6½@6¾c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5½c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c, Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3@3½c, gross weight.

LAMBS—Suckling, $2.50@3 per head, or 4¼@4¾ per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs., 5½c; 130 to 250 lbs., 5¾c; 250 to 350 lbs., 5@5½c rough heavy, 4@4½c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $10@14.50; Wheat and Oat, $10@13; Oat, $6.50@12; Barley, $8@11; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per balc, 25@40c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton. $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $22.50@23.50.

CRACKED CORN—Choice stock. per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26@29.

GROUND BARLEY—Per ton, $21@23.

COCOANUT CAKE—In lots of 10 tons. $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

Flour and Cereals.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice, No. 1 Feed, $1.02½@1.07½; some fancy grades up to $1.08¾; common to fair, 97½c@$1; inferior grades, 87½@95c; Shipping and Brewing, $1.10@1.12½; Chevalier, $1.10@1.20.

OATS—Good to choice White, $1.37½@1.45; Red, $1.35@1.45 for choice to fancy; $1.15@1.32½ for common to fair; Black, for seed, $1.50@$1.65.

RYE—Good to choice, new, $1.42½@$1.47½.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45, small do, $1.60@1.65; White, $1.37½@1.40; Eastern, Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.37½@$1.40.

CITRUS MARKETS

The citrus fruit market in eastern auctions is, if anything, rather easier, which has been largely caused by the indifferent quality of the fruit offered. Especially is this true of grapefruit and of oranges. Lemons have reduced somewhat in price, the importation having increased very materially, though the few cars which have been offered have commanded very satisfactory prices, though not equal to those of a month ago.

New York.

At Monday's sale two cars of oranges and three cars of lemons were sold. The quality was, as a general thing, indifferent, though the finer grades advanced in price. Two cars of grapefruit were also offered, selling very low. Grapefruit from Jamaica is beginning to arrive and it is claimed will take precedence over California stock.

In Valencias, I X L, Spence Ft Co, averaged $3.75; Blue Seal, xf, ACG, $5.50; Red Shield, xc, do, $4.15.

Lemons, KCFE, Santa Paula, $5.60; Triple x, fy, Whittier, $6.20; Triple E, Whittier, $5.10.

Market somewhat firmer at Tuesday's sale, some fruit advancing to $7; two cars oranges and three cars of lemons were sold. Valencias, Old Mission, fy, Chapman, Placentia, $6.30; do, ch, $5.60; Golden Eagle, st do, $4.50;

Lemons—Flower, fy, Upland, $4.20; Lomas, ch, Santa Paula, $4.25.

Five cars sold Wednesday at auction, three of them being lemons. Valencias, only fairly good stock, and while prices were not big, they represented full value, quality considered. Grapefruit still at ruinously low prices. Large receipts of foreign lemons tended to ease the lemon market, though the prices continue fairly satisfactory.

Valencias, Rialto Girl, fy, $4; Golden Rule, xc, Riverside, x, $4.50; Grapefruit, Golden Rule, $1.20.

Lemons Triple X, fy, Leffingwell, Whittier, $4.95; Triple E, do, $3.90.

Boston.

Only one car of Valencias offered at Monday's sale. Prices ranged from $1.85 to $3.75 per box.

Only one car was offered at Tuesday's sale, quotations ranging from $2.75 to $4.40.

At Wednesday's sale, two cars of oranges and one car of lemons were sold, lemons manifesting a very strong tone. Prices ranged from $3.45 to $4.25. Valencia oranges ranged $2.35 to $4.15.

CITRUS SHIPMENTS.

Total shipments of citrus fruits to date, 30,021 cars, of which 4181 were lemons.

The Droge packing house at Fresno was destroyed by fire last Saturday, causing a loss of $100,000. The building and contents, mostly dried fruit, were insured for about $75,000.

The weather and corp conditions for the week ending September 18, are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

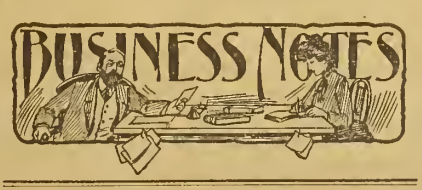
General Summary.—Clear and warm weather prevailed in all parts of the State most of the week, although the temperature was slightly below normal in the great valleys. Light rain fell in the northern coast counties Tuesday morning and again Sunday morning. Fogs prevailed to some extent in the coast sections at night.

Conditions were generally favorable for maturing the late fruits, raisin making and fruit drying. The first crop of raisin grapes in the San Joaquin valley is mostly on the trays and curing satisfactorily. If the weather continues favorable the raisins will be ready for the packing houses in a few days. Raisin making has commenced in Southern California. Raisin grapes are reported excellent in quality, but the yield in some sections is below average. Wine grapes appear to be more abundant and the wineries are running to their full capacity. Heavy shipments of table grapes are being made. Prune harvest is not quite completed, but most of the crop has been dried or is now on the trays; the yield is lighter than anticipated, but the fruit is of good size and quality. The apple crop will probably be the best for several years, both in quantity and quality. Oranges continue in excellent condition in all sections and the crop will probably be the largest ever raised in the State. Walnuts are opening and harvest will commence soon. Melons, guavas and almonds are yielding large crops.

Hop picking and baling are still in progress; in some sections the crop is fully average and of good quality. Bean harvest is in progress in all sections and reports indicate that the crop will be very large. Sugar beet harvest continues. The fourth crop of alfalfa is being cut. Dry seeding has commenced in the Sacramento valley.

Eureka Summary.—The weather along the coast was generally favorable during the week. Continued warm and dry weather in the interior, where feed is short. Late varieties of apples are good and shipments are large.

Los Angeles Summary.—The mountain apple crop is being harvested under favorable conditions; the crop is large and of good quality. Grapes are plentiful; size and quality good. Oranges are not maturing as rapidly as last season and Thanksgiving shipments are not expected to be heavy.



MUST HATCH.

The Must Hatch Incubator Co., of Petaluma, is out with a 36-page catalogue which contains "something about incubators—and some besides. It has illustrations of various incubators, brooders and appliances of the incubator room where 50,000 chicks per month may be hatched and many other illustrations. Mr. Bourke, president and manager of the com[illegible] is to be complimented on the growth of this big concern. The Must Hatch incubators are securing a world-wide reputation for good work.

MOLINE RUNABOUTS.

Mr. Gregory tells us that those "Moline Runabouts" are beauties. Still better, we ran down to see them and we know they are beauties. Four seats, genuine leather upholstering, divided front seat, detachable side entrance tonneau, twelve-horse power, good for 30 miles per hour. Efficiency and beauty combined. All for $950 while they last, that is, this one car which is now in stock.

The Idyllwild Bungalow will close its dining room on Tuesday, September the 26th, although cottages and tents furnished for housekeeping can be had all the year round. The management reports a very successful season, the business having been about twice as large as any former year. The company will build more cottages, improve the roads, double the capacity of their bowling alley, erect a lecture and entertainment hall and put in a completely equipped livery stable. The summer season will open again in June, 1906.

The Clifford Chemical Co., of Los Angeles, are advertising a new cure for lump jaw, a hog cholera remedy and a chicken cholera and roup remedy in the Cultivator. Dr. C. E. Clifford, a veterinary surgeon and dentist, is senior member of the company, and his diplomas and recommendations are first class.

Mrs. J. L. Updyke, of Fullerton, is a new advertiser in the Cultivator. She recently bought the fine flock of White Leghorns of Jacob Kreger, of Anaheim, and is now offering eggs from them.

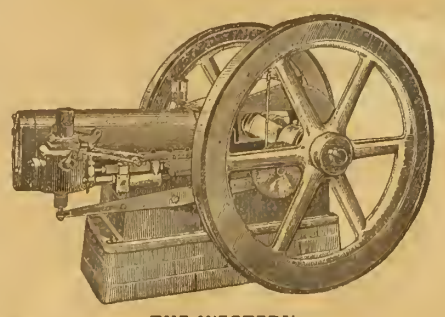
R. E. O'Neill, the U. S. gauger at Maderia, closed down the Italian-Swiss winery at that place. He claimed the employes of the winery were selling liquor in retail quantities.

DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES
Simplest Press Made.
LOW BRIDGE
Lifting Jack goes with each Press. Powerful—puts full weight into box car. Tracks with a wagon; 2 horses draw it on common roads.
Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

IN WOMAN'S BREAST
ANY LUMP IS CANCER
Any tumor, lump or sore on the lip, face or anywhere, six months, is cancer. They never pain until almost past cure.
THREE PHYSICIANS OFFER $1000
If They Fail to Cure Any Cancer
Without KNIFE or PAIN AT HALF PRICE for 30 days. Not a dollar need be paid until cured. Only infallible cure ever discovered. ABSOLUTE GUARANTEE.
CANCER
Best book on cancers ever printed, Sent FREE with testimonials of thousands cured without a failure. A Pacific island plant makes the cures. Most wonderful discovery on earth. Small cancers cured at your home. No X-Ray or other swindle. Write today for our 130-page book, sent free.
Address, DR. & MRS. DR. CHAMLEY & CO.
Most Successful Cancer Specialists Living.
Offices, 25 Third St., San Francisco, Cal.
Please Send to Some One with Cancer
When writing advertisers mention Cultivator.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST

MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P.

CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE
WOOOWARO PATENT MACHINE BANOEO PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

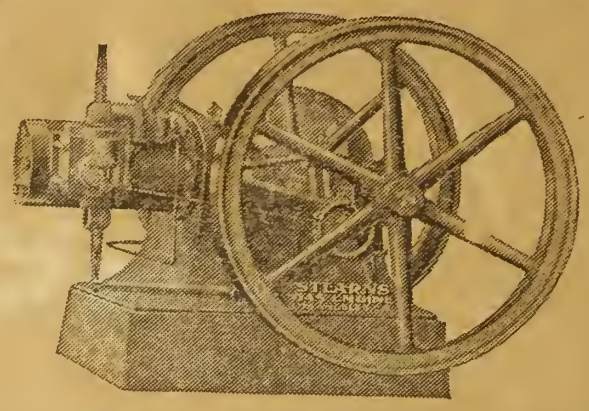
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY
PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth

To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

California Cultivator

LOS ANGELES SAN FRANCISCO

SEPTEMBER 29, 1905

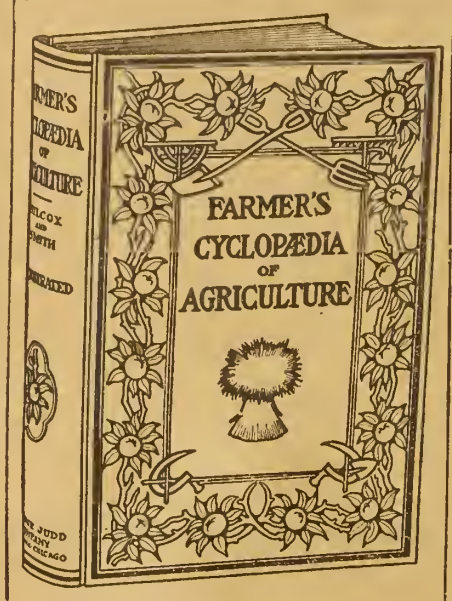
Courtesy California Promotion Committee.

PICKING OLIVES IN DECEMBER IN A SAN JOAQUIN ORCHARD.

The annual output of olive oil in California is about 150,000 gallons; of pickles 230,000 gallons. The imports to the country of oil amount to about 1,250,000 gallons per year and of pickles to 2116 gallons. In consideration of the fact that it is 135 years since the olive was introduced into California, it should be producing more of these products and the country importing less. In quality the California products beat the world.

CIRCULATION EXCEEDING 10,500

Farmer's Cyclopedia of Agriculture



A Compendium of Agricultural Science and Practice on Farm, Orchard and Garden Crops, the Feeding and Diseases of Farm Animals, Dairy Farming, and Poultry in the United States and Canada

Authors: EARLEY VERNON WILCOX, *Ph. D.*
CLARENCE BEAMAN SMITH, *M. S.*
Assistant Editors in the Office of Experiment Stations, United States Dept. of Agriculture

The World Moves

and whoever would not be left behind must lay hold on every means that enables him to move with it. As a basis of one's efforts nothing is more essential than the possession of a good work of reference

Adapted to the Conditions Peculiar to California and Adjoining States

The Farmer's Cyclopedia embodies in its many articles, most of the results of years of painstaking work at the California and neighboring State Agricultural Experiment Stations. It is thus, in effect, both a digest of local and state experience, and a compendium of general knowledge, all of which will prove of indispensable helpfulness to everyone in this section.

The Last Twenty Years of Progress

have measured more changes and recorded more advances in every branch of agricultural science than have been achieved during the hundred years preceding. During all these years no reference book adequately covering the subject has been issued.

The plan of this work is most comprehensive. Every article has received the most careful preparation at the hands of the authors, who have enlisted the co-operation of the highest authorities in the various departments. The greatest educators of the world, representing every branch of agriculture, here unite in one immense faculty to present directly and plainly the pertinent facts of their specialties. Every statement is authoritative and absolutely reliable.

If you wish to know about field crops, garden vegetables, fruits, nuts and other economic plants, farm animals, dairy farming, poultry, also manures, fertilizers, principles of feeding, soils, drainage, irrigation, spraying, veterinary medicines, etc, etc, it is here. Everything concerning farm matters is treated with great thoroughness, though without undue fullness. We claim for it the unique distinction of presenting for the first time, in a carefully arranged and perfectly accessible form, an accurate summary of every subject of interest to farmers, etc.

Over 6000 Topics Indexed
A Wealth of Illustrations

An important part of this work is its very complete and elaborate index, with cross-references under both scientific and common names, so that any information wanted can be found at once. There are between 6000 and 7000 topics covered in these references, making the most perfect index to agriculture ever attempted. It contains 700 royal octavo pages (9½ x 7 inches) and nearly 500 superb half-tone and other original illustrations. Type, paper, printing and binding are all in the highest style of the bookmaker's art, worthy alike of the well-qualified authors, the enterprising publishers, and the industry of agriculture.

PRICE IN HALF MOROCCO, $4.50

To Cultivator readers we make this proposition:—Fill out and sign the enclosed coupon and mail to this office and the book will be delivered postpaid at once and your Cultivator subscription advanced one year.

CUT OUT AND MAIL THIS COUPON AT ONCE

CULTIVATOR PUB. CO., LOS ANGELES, CAL.

Please enter my name for one year (NEW or RENEWAL) and send me the Farmer's Cyclopedia of Agriculture, half morocco. For both together the price to be $5.00, which I agree to pay as follows: $1.00 on the first day of next month and $1.00 on the first of each of the succeeding four months. Until the $5 is paid in full title to the Cyclopedia to be vested in you.

NAME.....

P. O..... STATE

We Can Save You More Money

Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building
Phones: Home 2367; Sunset Red 2811

Shops and Yards: 860 North Main St.
Phones: Home 1088; Sunset Main 1088

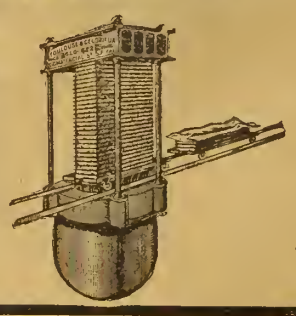
Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.

WINE AND OIL MACHINERY



A SPECIALTY

Presses for All Purposes.
Complete Plants Fitted Out.

TOULOUSE & DELORIEUX

618 Commercial St. ***San Francisco***

Catalogue Upon Application

"Johnny, Git Your Gun"

At HOEGEE'S

Our bran new catalogue will tell you all about it. Address Dept. A.

CANVAS IRRIGATING HOSE

1¾, 2½, 4, 9
11, 13 Inch

COSTS LITTLE
LASTS LONG

KHAKI SUITS Faultless Fit To Order **$4.50**
Shed for Self Measuring Blank

The Wm. H. Hoegee Company, Inc.

Phones—Exchange 87

138-142 S. Main St, Los Angeles

SHASTA ROUTE is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

REDUCTION IN RATES—

$28.00 ROUND TRIP

Exposition closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 13 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 29, 1905 Subscription $1 a Year

Silo Construction

A Few Notes on the Value of Ensilage and an Interesting Letter from E. E. Moore on Building and Filling

Never before has the Cultivator received as many requests for information on the silo and ensilage as this season. It is often claimed that California, with its perpetual summer, has no need for the silo, but the great advantage which the few have found in it is gradually extending its use. This paper has often referred to these advantages and only recently asked one of the largest dairymen near Los Angeles if it was a mistake to urge California dairymen to build silos, and he answered, "By no means. The silo is of the greatest advantage to any dairyman with ten or more cows."

It is of advantage because of the great value of the food and because so much can be grown on a small plot of land. As a rule corn is used for silage. Some use alfalfa of first cutting, which is often so full of foxtail and weeds as not to make good hay. Sorghum is sometimes used, but is by no means the favorite which corn is. An eastern paper gives the following as a limit as to when to cut the corn:

"Corn for silo should be cut when the most advanced ears are well dented and the lower leaves of the corn stalks are beginning to dry. If it is cut much before this, the silage is apt to be of poor quality. It will develop too much acid and consequently be sour. There is more nutriment in corn if cut at the proper time, than if it is cut too early. If it should so happen that the corn is too ripe and somewhat too dry to make good silage, a stream of water can be run into the silo when it is being filled. There is but little danger of running in too much water."

As to silo construction, we give the following, written for Cultivator readers by E. E. Moore, of Compton:

* * *

Editor Cultivator: I have no doubt that some of your readers who are dairymen do not own a silo, and perhaps do not believe it much good. On this point I would say that anyone owning ten cows would add at least $20 per cow per annum to the earning capacity of his herd by feeding say 30 to 40 pounds daily of corn silage. I began its use about six years ago when I owned ten cows. I constructed a square silo in one corner of my hay mow by nailing number two, six-inch flooring to 2x6 studding 24 feet long. I placed the flooring with the groove up and filled this groove with heavy paint. In each of the corners I put a 2x8 beveled at the mills, so that the sharp angle of the box was cut off. This silo holds about 50 tons and has been in use ever since it was built.

A couple of years ago I put up a stave silo outside of the barn; this was constructed of 2x6 rough redwood, is 30 feet high and contains perhaps 75 tons. The silage in this tub has been equally as good as in the square one. This fall I have constructed two other stave silos, one of 100 tons capacity, and the other of 60 tons, so that I now have close to 400 tons capacity for my 100 cows.

So much for the silo. I might say, however, in passing, that none of these silos cost me over $100 and some as low as $60.

Another good style of silo is made by ripping fencing into one-half inch stuff and putting tarred paper between. I am told this makes a cheap, easily constructed silo of great capacity and durability. I am inclined to think that I shall try this style when I increase my silage capacity, as I surely will by another season.

Now as to filling: I first used a No. three Lambert engine and No. 131 cutter. This machine would put up about three tons per hour. Then I got a six-horse power Lambert and No. 18 Ohio, having sold the old one. I now have a Climax blower and cutter, which is run by an 18 horse-power White & Middleton engine, and with this last machine I have put through 45 tons in 180 minutes, or a ton every four minutes. Where one does not desire to go to the expense of buying the machinery he can easily hire it cut at 30c per ton. One peculiarity about the work of the Climax cutter I have noticed is that the stalk is entirely crushed and shredded besides being cut, so that a silo will hold much more and the cows do not leave any because of sharp edges or chunks.

A very common mistake in the preparation of silage is made in putting it up too green. When this is done the succulent juices will run to waste and much of the food value is destroyed. If the corn is kept well irrigated and growing it is best to have the ear pretty hard. Of course, when the lower blades die and the lower part of the stalk gets yellow, it is not right, but this will not occur if kept in good growing condition up to the last.

I have always fed my cows at noon, thus keeping away any unsavory odors during milking. I find that they require from thirty to forty pounds per head. I always figure my silage in at $3 per ton. If one has to buy the corn and hire it cut, it may cost perhaps $3.50 per ton, and where one raises all the corn and has his own machinery, the cost would not exceed $2.50 per ton. When fed in conjunction with beets and alfalfa hay, you have a perfect ration and one that will develop to its fullest the capacity of your herd. Any single ration must necessarily be unsatisfactory and consequently unprofitable. I always salt my silage so that the cows eat more and drink more perforce, and this adds greatly to their milk production. I have also salted my alfalfa hay this year and I believe it will be found satisfactory. I have been handling dairy cattle now for ten years, and some of the best cows on the coast with pedigrees equal to King Solomon's, and I find that they all take to silage like a duck to water, and with unvarying good results. Not only is the quantity of milk increased but also the test is very perceptibly higher when feeding silage,—E. E. Moore, Compton.

GREEN ALFALFA FOR COWS.

What is a safe ration of green alfalfa for cows? I have lost several good cows that were allowed to run in alfalfa. Did the alfalfa kill them? I would like to have the best information regarding the construction of the silo, especially with regard to feeding alfalfa.—John Neilson, Hollister.

Green alfalfa will certainly kill some cows if they are allowed to feed upon it when it is young and succulent or when it is wet. This is especially the case if they have been kept on dry feed and are turned into a fresh pasture of alfalfa, when they will gorge themselves with the young feed till digestion is suspended, fermentation sets in, and they bloat to that extent that they are choked to death or possibly by actual rupture of paunch. Remedies for this disease, hoven or bloat, have been given in the columns of the Cultivator, but unless the pasture is near the house where the animal's distress is observed early in the trouble, it will probably die before help arrives. A good, big dose of common cooking soda will relieve a mild case. Some use a common rubber garden hose well greased and forced down the throat to allow the escape of the gas. Others tie a broom-stick in the mouth to hold the mouth open, while in severe cases, some have had complete success by the use of the knife in punching a hole in the paunch. The best way is to prevent the trouble by turning the cattle in the alfalfa pasture only a part of the day, when the sun has dried the leaves of moisture. Some dairymen even go so far as not to give the cows more than thirty minutes run in the alfalfa field. If the grass has been cut and is wilted, it can probably be fed in unlimited quantities, though even with some stock, which is exceptionally susceptible, care must be taken not to water immediately after eating.

A PARCEL POST ABSURDITY.

Editor Cultivator: I was glad to see the extract from the American Cultivator in your last issue. It does not tell the whole story, however. There is still the semi-official parcels post from Great Britain to the United States for packages up to eleven pounds weight. But there is also, and has been since April 1st of this year, an official parcels post for parcels up to four pounds, six ounces in weight.

You, Mr. Editor, can take a four-pound parcel to your nearest postoffice and mail it all the way to London, England, for 48 cents. If you want to mail the same parcel to your nearest town or village, you must pay 64 cents for the privilege. A payment of twelve cents a pound carries it all the way to London, but it costs sixteen cents to send the same package from Los Angeles to Pasadena, or San Francisco to Oakland.

When will American citizens ask Congress, why is this thus? Absurd? Yes, disgraceful and disgusting! Cultivate politics, ye farmers.—Edward Berwick, Pacific Grove, Cal.

ROUND VALLEY INDIAN RESERVATION.

The Cultivator is in receipt of several queries from interested subscribers as to the Round Valley Indian reservation in Mendocino county and as to details of its opening on October 3d. We can only refer such inquirers to U. S. Land Office, San Francisco, who can give more explicit information.

The report of the committee on hops of the New York Produce Exchange gives the United States crop for the year 1904 at 260,000 hundredweights, as compared with a crop for 1903 of 223,000 hundredweights. It also gives the European crop as 1,040,000 hundred weights, as compared with one of 1,140,000 hundred weights for 1903.—U. S. Crop Report.

The Onion and Its Culture

By J. C. Ostergard, Burbank, Cal.

Since prehistoric times man has cultivated this lowly, beloved and despised plant. From the lowliest hovel to the most magnificent palace home, it is openly despised, but covertly beloved. At any meal and at any season of the year, much as man affects to abhor it, he eats it.

Onions succeed best on a heavy loam with a slight admixture of clay, but not enough to bake and crack the soil. As to what variety is best suited for your locality, as the climate differs widely, it will be well to ascertain what kinds have been most successful in your neighborhood and act accordingly. In the mean time, make tests with other sorts on a small scale and be guided by results. We must not forget that what will prove highly profitable in one section of California, may not do at all in another. A patch of onions well tended often yields a profit so large as to make the successful orange grower scratch his head to the bleeding point. It is, however, the early spring crop that yields the largest returns. To get a spring crop, two methods are practiced. One is to sow the seed in drills; the other is to use onion sets. Each of these have their advantages. The sets will produce their crop when the price is high in the early spring, but the onion produced is lacking solidity, and only sells while no better ones are to be had. As soon as the onions grown from seed appear the profitable sales for those grown from sets is past. Could the ones grown from seed be put on the market a little earlier, the sale of those from sets would be all but impossible.

To this end, the so called new method may be employed with satisfactory results. This method is, however, not new, having been in practice in Australia for a long time and is there called the old method. Probably Solomon was right when he declared that there is nothing new under the sun. The method in the East is to sow the seed in hotbeds in drills at a distance of about four inches, using about twenty seed to the running inch, thinning to twelve to the inch. They are grown until they have formed bulbs about as large as a pea, or a little larger. Then they are ready for transplanting in the open. In Australia the method is the same, except that there the beds are made in a sunny, sheltered nook, such as can be produced by piling brush or boxes on the north side.

* * *

Method of Transplanting.—If the soil is not rich enough, stable manure should be applied at the roots for about twenty-five tons to the acre, or more if the soil is very poor; spread as evenly as possible, break up all lumps and harrow the field with a rapidly moving team, in order to thoroughly pulverize the manure. Irrigate well, plow and follow immediately with the harrow. Use an adjustable harrow, letting the teeth slant back at an angle of thirty degrees, or more, in order to fine the lower soil. Now furrow with a one-horse furrow to the desired depth and from twelve to fourteen inches apart. Have a boy go along and drop the young onions three to four inches apart, another following him up and firmly pressing the damp soil around the young plants. Be sure that the soil is damp. Considering that there is no misses and no danger of weeds gaining a headway, as is always the case where the seed is planted in drill, this method will prove as cheap as the old way of sowing in drills, and as the crop is surer, earlier and nearly twice as large, there is no reason why it should not supercede either planting seed in drill or onion sets.

It will require about one hundred and sixty-five thousand plants to an acre. These, if grown to weigh four ounces each, will yield over fourteen tons to the acre, or if a weight of eight ounces is obtained, nearly thirty tons. If your locality is too cold for open out of door hotbeds, use frames covered during the night with glass or canvas, or you may engage some one where it is warm enough to grow them for you.

* * *

DANDELIONS.

No plant for greens is so sought after as is the dandelion, yet in the many years I have frequented the markets here in Los Angeles I do not remember it ever being offered for sale. It is easily grown, will flourish in your lawn and make you think of old times when you see and taste it. Procure some seed, throw a little of it on your lawn and make a bed of the rest and you will be pleased.

* * *

Winter tomatoes, Yorkshire Hero peas and string beans may yet be planted in frostless sections. But don't be too hopeful regarding bean planting at this late date. The Broad Windsor excel all others, but it has no eatable pods, only the beans are used. Plant now turnips, carrots, cabbages, beets and kindred cool weather crops.

A SAUER KRAUT CITY.

Clyde, O., claims the distinction of making more sauer kraut than is manufactured at any other town in the world, including Germany. A single factory is that city has an output of 25,000 barrels for two months and a half. The magnitude of the business is realized in a statement that is made that 1800 acres of cabbage is annually utilized, and each acre yields ten tons, which brings from $6 to $7 a ton. The farmers in the city often receive $100,000 for their crop.

When the cabbages arrive at the factory late in autumn they are stored in receiving bins. Next the inspectors carefully look them over and then they go to a force of cleaners, where the cores are taken out with knives constructed for that purpose. From this department a continuance carrier brings them to the cutter, where they are reduced to slaw. One factory can grind 100 tons of cabbage in a day.

The cabbage goes from the cutters to the receiving tank, where salt is added, and from here it is put into 100-barrel vats. From these vats is is later transferred to the barrels, in which it goes to market.—Pacific Homestead.

THE PHENOMENAL BERRY.

The Phenomenal is the result of a cross between the Improved California Dewberry and the Cultivated Raspberry. It takes the color and flavor of the latter and size and shape of the former, described by Mr. Burbank as the largest berry ever before known, bright crimson raspberry color, productive, most delicious for pies, canning, jelly or jams.

The berries grow in clusters of from 5 to 10 or more and individual berries under favorable conditions, have measured three inches one way by three and one half to four the other. The vines grow as trailers. In field cultivation there are two methods:

One is to set the plants six or seven inches deep, six to eight feet apart in the rows, eight feet apart, let them grow one year but keep the ground well cultivated. Then set stakes twelve to sixteen feet apart and three and one-half to four the other. The vines grow as trailers. In field cultivation there are two methods:

One is to set the plants six or seven inches deep, six to eight feet apart in the rows, eight feet apart, let them grow one year, but keep the ground well cultivated. Then set stakes twelve to sixteen feet apart and three and one-half to four feet high. Stretch a wire from top of stakes and staple down. Then gather up the vines and loosely twine or tie to the wire and continue cultivation. The other method is similar, only the plants are set 12 to 16 feet apart in rows only 4 feet apart. The fruit ripens early and the largest yields are obtained on moist sandy loam soils.

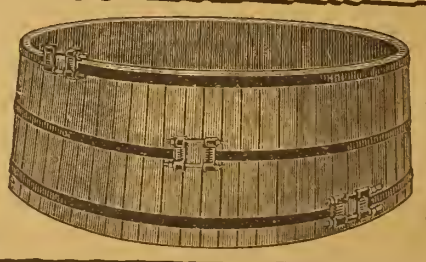
After the fruit is gathered, go through and cut out all old vines and canes, as the new growth at the foot of the hill is the one to put up on the wire the following spring to bear fruit.—N. W. Horticulturist.

* * *

The Phenomenal raspberry so much resembles the Loganberry in appearance and flavor that it is practically impossible to tell one from the other. A California man who was sure that there was a distinct difference in flavor found himself in error when blindfolded in a test recently made at the exposition. We have not seen the Phenomenal plants growing and do not know whether they are as much like the Loganberry plants as the fruit of the two varieties. If there is as much resemblance in plants as in fruit, it is probable that many purchasers of Phenomenal plants have been supplied with the Loganberry plants. The Loganberry continues to grow in popularity in Oregon.—Oregon Agriculturist.

Mr. S. H. Taft of Santa Monica favors the office with samples of the Kadota fig and California Concord grape, which are exceptionally well flavored fruit, trees and plants of which he is introducing.

Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO
When writing advertisers mention Cultivator.

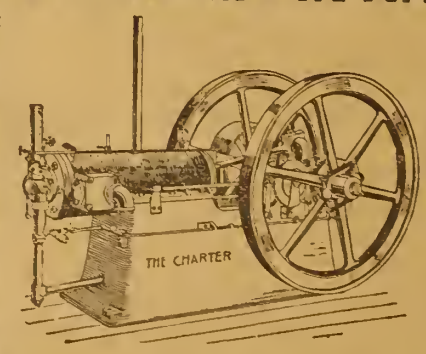


TANKS

Wine Tanks, Oil Tanks, Water Tanks. You can save money by getting my prices. My improved tank is easy to erect. A hammer and wrench are all the tools you need.

R. F. WILSON MANUFACTURING WORKS
STOCKTON, CAL

ECONOMY IN RAISING WATER



Is possible with a reliable engine. We have a good gasoline engine for little money. Competent engineers at hand to give advice on installation. Write us for information on Gas, Gasoline and Steam Plants.

Pacific Coast Mfg. Co.
126-128 So. Los Angeles St., Los Angeles, Cal.
When writing advertisers mention Cultivator.

Ask for Ames California Cups they are made of the Best California Oak Tanned Leather. Every Cup Guaranteed
MANUFACTURED BY A.T.AMES, GALT, CAL.

FEEDING BEES.

Editor Cultivator: Will you please tell me through the Cultivator what will be cheapest and bring the best results to feed my bees this winter, and about how much will twelve colonies require per week. They were transferred very late, have no stores whatever. Can they gather enough honey from now till the first rains to keep them alive, or shall I commence feeding them at once. They don't seem to be working much at present, but seem to cluster in a bunch near the top of the frames.—Subscriber, Watsonville.

The best feed for bees is made from dissolving best grade of granulated sugar in cold water. One gallon of water to ten pounds of sugar, mixed cold. If in large quantities, this may easiest be done by placing in the extractor say one hundred pounds of the sugar and pouring over ten gallons of water and agitating the extractor until all dissolves. It will require twenty-five to thirty pounds of this syrup for each colony. An old beekeeper tells us that it will be far better to give this entire feed at one time rather than to feed along as the bees need it. Where that is done there is danger of stimulating the bees to brood raising, thus increasing constantly the expense of the feeding. As to whether to begin feeding at once, you can best tell by examining conditions in your own vicinity. We imagine from what you wrote that it would be best to begin at once, however. One of the cheapest and, we are told, one of the best feeders, is to take old tin cans, melt the top off so as to have even surfaces around the top, fill with the sugar, place over the top a smooth board, invert instantly, which will bring the can upside down, but the suction will prevent the escape of the sugar, excepting as the bees draw it from under the tin. Mr. Clayton, of the Medary Supply House, tells us he has seen one hundred colonies of bees take up a ton of sugar in one day through these home-made feeders. Glass fruit jars and other receptacles may also be used.

THE EVAPORATION FACILITIES OF A BEE HIVE.

The means of evaporation which the bees have within the hive are wonderful to contemplate. During the honey flow they go out and bring in the nectar, which at its best is apparently but little better than sweetened water, and evaporate the water out until we have the delicious honey which we eat on our cakes or hot biscuit. During the height of the honey flow we have often set a colony upon a scale and weighed them at night and morning. Often we have noticed that they have increased their weight ten pounds during the day, and that in the morning they weighed two pounds less than they did in the evening. What was the matter, robbers, or did they eat the honey up? Oh, no, they have simply evaporated two pounds of water out of the honey in the hives. Did you ever notice early of a warm evening when honey was coming in rapidly several bees standing well upon their legs and making their wings go so fast that you could not see them? The workers coming in from the field loaded with nectar are passing under the bees who are using their wings so rapidly. These bees are getting up a circulation of air through the hive and this is taken up by other bees and carried along by other bees at regular intervals while others seem to be exposing this nectar to the circulating air with their tongues. What a humming there is going on within the hive? If the weather is warm enough this is carried on all night. Hold your hand down close to the entrance. What a draft of air there is passing through the hive; on one side the air is cool and on the other it is warm. When we state that they carry in the sweet juices from the sugar corn or sorghum and evaporate them down to a consistency with which they will keep we are able to give you a vague idea of the wonderful evaporating facilities there is within a bee hive.

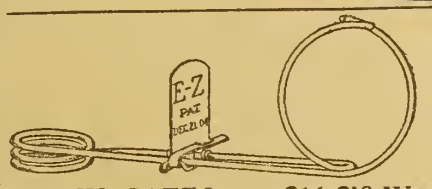
Practical Advice on Parasitism.

This is the time of the year when the last brood (for the season) of the wooly aphis commences to infest the trunk, branches and entire top of the apple trees in this locality. Generally speaking, apple growers have very little idea of the destructiveness of this late brood and of its disastrous effect upon the apple crop of the coming year. Upon the older trees the aphis seem to prefer the fruit spurs, congregating in large masses at the base of the fruit buds that, under more favorable conditions, would develop into a source of profit the following season. The result of the punctures of these myriads of little beaks, is a distorted appearance of the spurs, a mis-appropriation of the vital forces of the tree, a weakened and, in many instances, destroyed condition of the fruit buds. Especially is this true of the White Winter Pearmain. Another important factor is that it is generally this late brood that develops the perfect, winged, sexed form of this insect, some of which fly away and by depositing their winter eggs upon other trees start the nuclei for new colonies.

In the apple orchards of this district these later broods of wooly aphis are completely destroyed by the native parasites. The various forms of the native lady beetles, the Sryphus flies, the aphis lions and principally by a little known parasite, a chalcid, probably Aphelinus mali.

While this control by natural methods is invariably complete at this season of the year, a large amount of damage is done by these pests before relief arrives and the object of this article is to advise the growers how in a great measure they may circumvent this by a little prompt action on their part. A small fraction of the energy and expense necessary to rigging up and spraying the orchard devoted to collecting and distributing these beneficial insects at the first appearance of the aphis will produce as good, if not better results.

There are four forms of the red, or red and black-spotted lady beetles common to this locality. Without going into detail, any and all of these are valuable for this purpose. They may be found upon the corn and pumpkins, and upon the weeds along the ditch banks in large numbers. A simple way to collect them in this instance is to take a dust pan and a small sized fruit jar. Holding the pan in one hand, bend the cornstalk or weed over the pan and give it a quick, strong jar. This will cause the lady beetles to fall into the pan, from which they can be quickly and easily emptied into the fruit jar. They should be liberated in the center of the orchard late in the afternoon and once there they may be depended upon to control the aphis without any further effort on the part of the grower.—Fred'k Maskew.



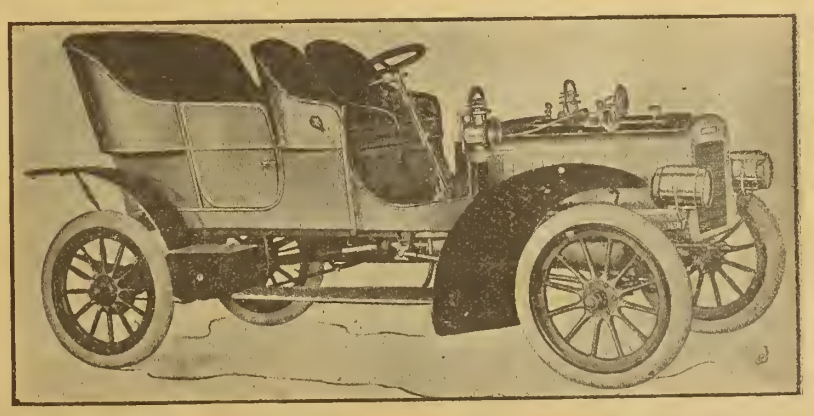
Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Have You Seen the Moline Cars?



The most beautiful family cars on the market.

A carload of Runabouts just arrived and will be sold at $950.

Call and see them.

Wm. Gregory, 602 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

Outlook for Citrus Industry

We referred last week to the period of the year and to locality as a factor in securing satisfactory prices for different varieties of citrus fruits and we take up this week another factor of the marketing which is of vital importance, perhaps far more so to the grower than that of the period of the year or locality.

There are four different channels of disposal of citrus fruit. The one through which the largest amount passes is a co-operative movement which has attracted attention of producers the world over, for it is the largest and most successful of its kind in existence. This is what has been known as the Southern California Fruit Exchange, but, beginning with this year, takes its new name of the California Fruit Growers Exchange. The next strongest factor in the marketing of citrus fruit is a group of growers and shippers known as the "Independents." Following them comes the California Citrus Union, a collection of seven of the largest shipping firms sending fruit from this section. At least they were by far the largest factor in the fruit market until within a very short time. Now, as compared with the total, they are secondary to the Independents. Last, and an exceedingly small factor in disposal of the total crop is the "local shipments," disposal of culls and ordinary stock to peddlers and other factors which pertain only to the Coast. These may possibly be properly grouped with the Independents, but in any case are an exceedingly small factor compared to the whole.

* * *

The California Fruit Growers' Exchange shipped during the past year approximately one half of the output of the State, or, to be more exact, slightly in excess of forty-eight per cent. This organization is a purely co operative body of growers, bound together for the purpose of marketing their fruit with the least possible expense and securing the best possible price. It has been dubbed a trust, but is not such in any sense whatever, for there has never been any effort to put exorbitant prices upon the product of its members, but simply to so manage affairs as to secure the best possiblo transportation facilities and best distribution of the fruit.

There are three wheels to the organization, the first being the central, or California Fruit Growers' Exchange, an incorporated body whose stockholders are made up of representatives from fourteen district exchanges. These district exchanges in turn are corporate bodies, whose stockholders are representatives of the local association of growers. The Growers' Association sometimes contains several hundred members and in one or two cases only one person forms the entire membership, where such grower has an exceedingly large amount of fruit and controls his own packing house. These associations have to do with the gathering into the packing house from the orchards of the fruit, packing, placing in cars and delivering bill of lading to the district exchange. This district exchange is the business factor, at least to the extent of choosing its market with certain limitations, collecting the fruit from the California Fruit Growers' Exchange and turning same over to the association management. This district exchange has control, also of the price which it may take for the fruit, diversion of cars, etc. The California Fruit Growers' Exchange has the employment of a corps of agents who are scattered in the various markets of the East, develop new markets and in a general way look after the interests of all California growers, especially as to freight rates, icing charges, tariff, reciprocity tinkering, or any other factor which will affect the industry. In the point of freight rate on lemons alone, the Exchange has accomplished a great service for all lemon growers. These are points which are seldom considered by many growers who are not members of the Exchange and there are, without question, obligations to this organization which "outside" growers should not be slow to recognize.

* * *

The next strongest factor in the marketing, as we have said, is the independent group of shippers and growers. This, until the last year or two, has been of no great importance in the citrus trade. But, since the disruption of the California Fruit Agency, there has been a breaking away from alliance with shippers forming the Citrus Union. At the time of the Union of these two large bodies, that is, the Citrus Union and the Exchange, the Union controlled very nearly half of the output of the State. Now, it has been claimed that its output during the last season has been reduced to very nearly sixteen per cent of the total.

This would leave approximately thirty-five per cent of the fruit which has passed through independent hands. These independents are sometimes fruit brokers or buyers who do not affiliate with the Exchange, neither with the Citrus Union, also associations handling their own fruit as they see fit and sending to any market they desire. Within this body there are a few assoications of growers co-operating in handling their own fruit. Some of the most successful being in Redlands. These associations not only attend to the gathering of the fruit from the orchards, packing, loading and shipping, but also to their own marketing, entirely. There have also been other associations at Highlands and at Riverside, though, as a rule, in those places the independent marketing is done through buyers, shippers, or brokers dealing with the grower.

The Citrus Union, as we said, at one time controlled nearly one-half of the output, but, owing to the breaking away of many adherents to its plan of marketing, is today very materially reduced. The plan of marketing is: The Union makes a charge of thirty-nine and a half cents per box for packing and marketing charge, save the brokerage and auction charges, which are additional. Then, with the agents in the East, they secure the best possible price for the fruit and turn balance over to the grower. We believe there is in this organization a certain feature of pooling by which the fruit of the various shippers through this organization is pooled from time to time, when they desire. The various firms comprising the Union are, to a certain extent, independent in their handling, but in the marketing at the eastern end work together for the purpose of reducing expense and to better control the market.

All of these methods of fruit handling have certain variations at the eastern end of the line. That is, all of the different shippers make an effort to secure f. o. b. sales. While in general the Exchange has had a system of "selling delivered," it has not during the past season refused any reasonable f. o. b. order, but the old "f. o. b. inspection allowed" plan is decidedly tabooed. The theory of the "selling delivered" adherents is that "f. o. b.-inspection-allowed" plan allowed the buyer on a declining market to claim decay and poor grade as well as other and often untrue claims as a reason for his turning down his f. o. b. order, then securing it at his own price or turning it upon the market where it is sold for whatever it will bring.

This abuse became so flagrant that the Exchange decided it would sell delivered at the eastern market for whatever the market was at that time, thus securing the benefit of any rise in price after the fruit was shipped which would in turn compensate for the losses which always occur when there is a slump, whether f. o. b., selling delivered or no matter what plan.

The claim has been made that absolutely f. o. b. sales could be made at this end if all would join in the plan. This may or may not be true and the question is not worthy of discussion, from the simple fact that it is absolutely impossible to get the citrus growers or any other growers to unite and stay united on any one plan. From the very necessity of the case, there will always be an element which will refuse to join with any one plan and a plan of marketing which takes into consideration a combination of all will certainly fail. There is, however, a rumor that an effort is to be made to establish a large auction house in California, and attract customers to the fruit instead of sending the fruit for the customers.

Both the Citrus Union and the Independents have also made f. o. b. sales, the Union especially making strong ef-

MAIERS WALNUT HULLER

One man can do the work of twenty. Can be moved in the orchard and worked without water and run by hand or power. Circulars free.

G. F. Maiers, Goleta, Cal.

When writing advertisers mention Cultivator.

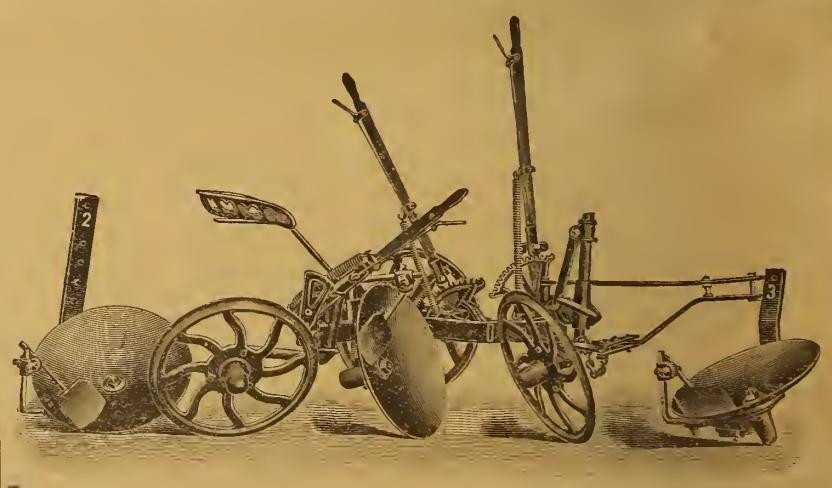
NONE BETTER

The California Limited Log-Book:

The California Limited — first, last and all the time. None better, few as good.

E. E. MARKS,
1623 Wirt Ave., Omaha, Neb.

SANTA FE IS THE WAY



The Emerson Disc Plow

Is the choice of every farmer who wants the best. It leads all other makes by virtue of its

Points of Superiority:

Levers controlled from the seat ; turns a square corner.

Number of discs easily reduced or increased.

Dust-proof and oil-tight bearings.

Rear lever provides ample depth of furrow in opening land and when on the road.

It is compact, strong and durable.

Call and see our line or send for catalogue. We have tools and farm implements of every description, together with the best buggies, wagons and harness on the market.

Our Prices are Right.

Newell Mathews Co. 200-202 NORTH LOS ANGELES STREET LOS ANGELES, CAL.

Selling Agents—Bird & Beebe, Anaheim Whittier Implement Co., Whittier
Twomey & Smith, Pomona Riverside Implement Co., Riverside H. Gregory, Redlands

fort to put its business upon that basis. But we do not believe a single factor of any importance in the citrus trade has been able to dispose of all its product in that manner and while in some quarters the "selling delivered" plan has been condemned, yet all have engaged in it in some form or other during the past season. This has been dubbed as the plan of sending fruit into the market and taking whatever the buyer saw fit to pay for it, but, with some allowance for business management and proper distribution, it may be said that that is all any fruit will bring in any market.

Of course, in most of the markets of the country the selling is done through brokers, sales agents, or possibly direct to large houses dealing with the central body. In addition to this, in the larger cities the fruit is thrown into fruit auctions. This has been strongly condemned, as well as the "selling delivered" plan, but, as it is followed by all the organizations shipping fruit out of California, we assume that it is fairly acceptable in its results to all. As a matter of fact, the prices secured in the auctions are only slightly under those secured in other markets. When it is remembered that, as a rule, the quality of the fruit going to the auction markets is very naturally below that going to the other markets, it appeals to one who looks at all sides of the question as if the auction markets were not to be condemned. The fruit going to the auction market is of a lower grade in general, not only because of choice often in selecting the fruit for such markets, but in addition because of the fact that the fruit which has been rejected or unable to find market in other sections, after several days en route is finally diverted to the auction and there forced into the market for what it will bring.

As to local sales a strong stand has been taken during the past year or more by some growers and associations to stop the sale in nearby markets, and even San Francisco, of culls and other low grade fruit, which is not worth the shipping to eastern markets. There are hundreds of tons of such oranges in San Francisco and Los Angeles markets which in the eyes of some are called for, that the poorer class of people may have some of this delicious fruit. But this, as well as the better grade of fruit, by the time it gets to the hands of the poorer people, often costs as much as a fairly good grade of fruit. In case of scarcity of output, it is perhaps wise for the grower to get all he can for all grades of fruit, but in a season like the past when good fruit was shipped east only to pay transportation and charges, to bring absolutely nothing to the grower, it would have certainly been far wiser to have sold such fruit in California markets and pay the high freight to the East only on higher grades of fruit. The time will probably come when this waste product of the citrus orchards will be taken up in the manufacture of marmalades, candied peel, citric acid and other products, which will not only remove the fruit from the market, but, at a vastly higher value, will bring additional returns to California labor and add to the greater prosperity of the State rather than take from it, as is now often done.

* * *

Some prices received this year in different sections will be touched up on next week with extracts from some reports of associations will be a feature another week. Also amounts shipped from the different sections.

CITRUS FRUITS

By C. A. Day. Pasadena

AN OUNCE OF PREVENTION.

I wish to call the attention of our citrus fruit growers to the importance of establishing and maintaining an effective quarantine against insect pests. Large sums of money are being expended every year by citrus fruit growers to control the scale and other pests that have been originally imported into our State from some foreign section. In every case the first and original infection was a small affair, where, if proper precaution had been taken, there would have been no original introduction; or if when first discovered, prompt measures had been taken the infection would have been stamped out at a very small expense by the destruction of the infected nursery stock, plants or fruit. The introduction of scale and other pernicious insects have been invariably by the means of nursery stock and fruit. The red, purple, black and other scale have been brought to California in this way, and after becoming located in a single section and having gained a permanent foothold, they have been allowed to spread from orchard to orchard and from section to section, until at the present time some species have become widely spread throughout the citrus sections of the State.

Learning from past experience, we are today maintaining, through State and County horticultural commissions, a fairly effective quarantine against the introduction of foreign insect pests. The State Commission of Horticulture maintains a quarantine at the ports of entry on our seaboard and the county commissioners of horticulture are doing a no less important work in quarantining against the shipments of nursery stock and fruit from Florida and Mexico.

* * *

New Pests Bronght In.—To show the importance of eternal vigilance on the part of those connected with the horticultural commissions in guarding against the introduction of new dangers into our State, I will give an instance or two that have come to my personal notice.

A little less than a year ago, Oonshiu oranges shipped from Japan were found at the fruit stands in the cities of Los Angeles and Pasadena, infected with two species of scale new to California. The fruit was promptly destroyed and investigation showed that this shipment had come through San Francisco, and the State Commission had fumigated the fruit in the boxes, and as the fruit was wrapped in paper the fumigation failed to destroy the scale and the eggs. This experience of the State Commission will probably prevent a recurrence of a similar instance. Two years ago a potted plant enclosed in a small box was brought by a passenger on a steamer from Japan and was left with a nurseryman of Pasadena to be treated for three varieties of scale which infested the plant. The plant was probably brought through in the stateroom and smuggled ashore covered with wraps.

Within the last year several shipments of plants and nursery stock from Florida have been destroyed by the horticultural commission at Los Angeles and Pasadena. Two of these shipments were badly infested with scale and white fly. One of these shipments, which I personally inspected, was infested with live purple scale and the white fly in the scale stage. Two shipments of plants from Florida, coming by mail, were already planted out before they came to the notice of the commission. Some time ago a shipment of native shrubs and trees taken out of the woods of Eastern Massachusetts arrived in Pasadena. This shipment came from the section where the gypsy moth is well established.

The above instances show the danger which continually threatens our State. Many people do not seem to recognize the danger of importing insect pests into the State, and when they cannot get the stuff through by freight or express will attempt to get it through the mail. There is a ruling of the United States Postoffice Department which gives the postmasters the right to notify the horticultural commission of the arrival of plants by mail. This is now being taken advantage of by the commissions to hold up shipments from Florida and the Gulf States. There is no doubt but that shipments of plants and nursery stock sometimes arrive and escape inspection by the commissions.

Strenuous efforts are being made to prevent the introduction into the State of the white fly of Florida, the orange worm of Mexico and new species of scale from the Oriental countries. In these cases and all similar ones the ounce of prevention will be very much cheaper than the pound of cure.

* * *

LOCAL QUARANTINE.

In certain sections of the State there are local infections of pernicious insects, while other sections are free from similar infections. The horticultural commissions of the various counties are doing good work in checking the spread of certain insects. It is important to maintain a local quarantine against the spread and wide distribution of these local infections.

* * *

Local Infection.—Very frequently red scale is introduced on to a place by the planting of infected rose bushes, or ornamental shrubs and trees. In planting out a young citrus orchard the owner sometimes plants trees infected with black scale; the result of this is to establish a stock of scale that quickly stocks up the young, vigorous growing trees and will make it necessary to go to the expense of treating the trees at the end of the first year. If the trees planted had been absolutely clean the orchard would not have required treatment for two or three years, according to its location near or remote from badly infected orchards. Clean trees cost no more than those that are infected. It only requires necessary precaution on the part of the purchaser to avoid the early expense of spraying or fumigation.

The planting on the street adjoining an orchard of camphor and other trees subject to scale infection, is not good policy. When once infected it is impossible to effectually treat the street trees, especially after they have attained any great size.

* * *

NON-RESIDENT PROPERTY

Is very frequently the breeding ground for scale, which come to infect adjoining orchards. In such a case it is along the line of prevention to request the county horticultural commission to force a clean up of such orchards in order to protect the other orchards of the neighborhood.

* * *

PICKING.

Picking sacks and boxes are a source of infection for red scale, and the members of every association should demand that all orchards of the association should be cleaned from scale.

* * *

THE GROWERS SHOULD CO-OPERATE.

With each other and the horticultural commission in securing a neighborhood clean up. In case one orchard is cleaned and an adjoining orchard not treated at all the treated orchard is soon reinfected from the other. Where there is a slight infection of red scale in an orchard it is economy to fumigate so effectually as to eradicate the scale and prevent the infection of the entire orchard.

Prevention along the lines suggestew above will in the end make a great saving of future expense to the orchardist and will insure more fruit and better fruit.

RANCH WANTED

Have customer who will invest from $3000 to $6000 ***cash*** in Orange or Walnut Ranch within 15 miles of this city. Must have abundance of water, 5 or 6-room house and other necessary improvements, and be a bargain. ***Write*** full description and price to

J. J AHLERS, Real Estate
310 No Broadway, Los Angeles, Cal.

When writing advertisers mention Cultivator.

20,000
Orange and Lemon
TREES
Strictly First-Class
Pollard Bros.
ALHAMBRA, CAL.

Peas 500,000 Pounds Two Hundred and Fifty Tons **Peas**

Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.

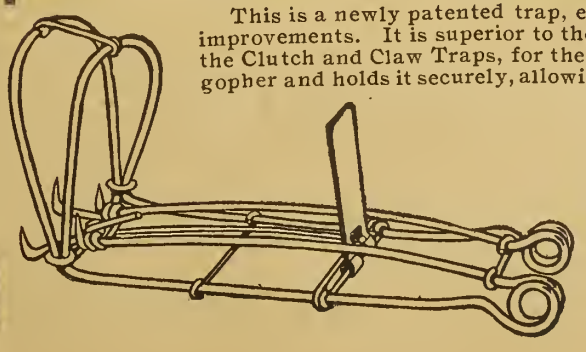
Johnson & Musser Seed Co. ***113 N. Main St.*** ***Los Angeles, Cal.***

When writing advertisers mention Cultivator.

TRAPPED TO STAY TRAPPED

The trouble with most gopher traps is that they permit the rodent to escape after the trap has been sprung. This not only makes the old style traps worthless, but prevents the recapture of the gopher. The only sure means of destroying gophers is with the

Improved C. V. 2-Ring Gopher Trap



This is a newly patented trap, embodying all the latest improvements. It is superior to the Single ring, as well as the Clutch and Claw Traps, for the double ring disables the gopher and holds it securely, allowing no chance for escape.

See that you get the genuine Improved C. V. 2-Ring. Sold everywhere for 25c; or if your dealer does not have them, send us his name and 25c for sample trap or $2.50 for a dozen, which we will forward postpaid.

Falls Manufacturing Co.
14 Drumm St., San Francisco

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

GOOD GARDENS NOT COSTLY.

Too many people of moderate means hesitate to make a flower garden because of the impression that "it costs too much." This is not so. You may purchase for fifty cents enough seeds to give you a fine start with from five to ten sorts of flowering perennials. Every year your plants will increase in size and these may be divided every three years until your garden is fairly overcrowded with a wealth of plants and blossoms. As stated in our last issue, this class of plants make a wonderful system of roots and are very drought-resistant. After becoming well established these plants need only an occasional irrigation to give splendid results. It is indeed a poor farmer who cannot afford a garden of the cost above noted and the flowers so grown will efface that bare, inhospitable appearance which too many farm dooryards present. Somehow a farm house surrounded with bright flowers bespeaks both hospitality and prosperity and add materially to a general home-like effect. Passersby hesitate to even ask for a drink of water where there is a barren dooryard, filled with rubbish and broken farm implements. The appearance of the yard is generally an index to the character of the inmates. Let us have flowers everywhere and as many as possible.

* * *

RURAL IMPROVEMENT.

The man in the country who improves his home surroundings not only benefits himself but the entire community in which he dwellls. Good examples are catching, like the measles, and when such a man forces the contrast between the looks of a place well cared for and his neighbor's uncared for, it becomes a great and effective object lesson. Try it and see. The cause of the improvement of home surroundings is to be congratulated that the press takes such a practical view of this great question, and lends its powerful voice to promoting its objects. It is mainly through such mediums that the farming communities can be reached, and it should be a constant effort of the improvement associations to keep the rural press posted on the progress of the movement, and to supply them with interesting and instructive practical matter for their columns. It should be an easy matter to impress upon the farmer the advisability of improving his home and its surroundings. The very appearance of the house and grounds of any farm affects the value of the farm in a far greater degree than is realized, and the towns or villages which nestle in the midst of agricultural districts would also be materially benefited by the interest which would be aroused from the surrounding beauty spots which improved farm houses would provide. There is such an uplifting tendency in beautiful environment that, given a hearty effort to impart and encourage the educational influences necessary to bring about reform, we shall soon witness the effects.

* * *

VILLAGE IMPROVEMENT.

The cities, great and small are doing their whole duty in providing parks, but the villages and small towns seem to think that parks are luxuries beyond them. We hear political economists bewailing the fact that the cities are growing faster than the country, and they ask why it is. Parks, boulevards, libraries, added to the other attractions of the cities are sure to entice the country youth from the humdrum life in a frowsy hamlet. And who can blame them?

But if Mr. Carnegie, or Mr. Rockefeller, or other of our rich men should assist and encourage our country towns to build parks, to plant trees and beautify their towns, thus making their homes pleasant, the glamour of the city would not be so striking. The building and endowing of great libraries is most commendable, but there are many things we need more. Those fine palaces filled with books are handsome monuments to the rich donor, but the same amount of money expended in playgrounds about the city schools and in parks in country village would bring more health and happiness to all the people. Our country people need to be educated along this line. Make the country towns more beautiful, and the desire to leave them for the great cities will not be so great. In spring time the dwellers in the cities turn with longing to the country and the country town. They long for green fields and singing birds, and happy the suburban town whose people have made its streets shady, its appearance attractive, for to such will come people who add to the community's life and prosperity. From an economic view, village improvement pays. It fills up vacant houses, it increases the value of your property, it educates your boy and girl, and it will make this world a pleasanter place than you found it.

* * *

HERBACEOUS PERENNIALS

Most of these plans will grow where any plants will. Good garden soil, warm and light, rather than cold and heavy, is preferable. They do not do well in wet undrained soil. Fine manure, carefully forked in each spring, pays in better plants and more flowers. In setting plants, break up and mellow the soil for a spade's depth. Fill the hole, which is half deeper than roots are long, with water. Set the plant in, spread the roots well so that none will remain in a dense mass. Work the soil well in among them, taking care that no hollow places are left. Press the soil firmly in against the roots. Cover with fine rich dirt on top; or better still, with well-rotted manure; water thoroughly. The weeds should be kept down and the soil stirred enough to keep the surface dirt light and open. As the flowers pass their prime the flowering stems should be cut away, not as a matter of neatness, but to prevent the plant from exhausting itself in prefecting seeds. If seeds are wanted, leave a sufficient number of stems.

* * *

GROW HERBACEOUS PERENNIALS

1. **For Their Beauty**—Great variety in the habit of the plant. Much diversity and beauty of foliage with flowers of interminable variety in form and color. By-a proper selection, a continuous bloom can be kept up during the entire season.

2. **For Their Permanence.**—When the foliage and flowers fade, that is not the last of them, they will appear stronger and more beauteous the next season.

3. **For Their Dividends.**—One can give away the increase and still be as rich as he was before. At the same time he can do good to his neighbors and friends by adding to their enjoyment.

4. **For Their Ease of Culture.**—When once plalnted they may usually be left undivided for three or four years. and in some cases much longer, requiring little or no care.

5. **For Their Flowers.**—They are generally abundant bloomers, and many are excellent for cut flowers.

6. **For Their Cheapness.**—This class of plants cost very little when obtained in small size. Better perhaps, than buying plants, is growing them from seeds; it is an easy matter.

* * *

HARDINESS OF EUCALYPTS.

Mr. W. Vortriede, of Stockton, reports the following eucalypts as growing on the State hospital grounds in that city. He also states that some have at times been injured by frost—one night in 1898 the thermometer registered 17 degrees.

Eucalyptus globulus, circumference, 9 ft., 3 in.: height, 110 ft.; E. tereticornis, circumference 7 ft., 2 in.; height 90 ft.; E. rostrata. circumference, 5 ft., 3 in.; height, 70 ft.; E. goniocalyx, circumference, 6 ft.; height, 50 ft.; E. macroryncha, circumference, 3 ft., 2 in.; height, 35 ft.; E. viminalis. circumference, 6 ft., 5 in.; height 85 ft.; E. paniculata circumference, 6 ft., 10 in.; height 115 ft.

As Mr. Vortriede is known to the writer as a reliable man and an excellent, well posted gardener, we have no hesitancy in recommending the above species for the San Joaquin and Sacramento valleys, except in the colder parts. It must be remembered, however, that the older a tree grows the more immune it becomes. Young trees of the above species are liable to be injured every winter.

WALNUTS IN FRANCE.

The present outlook for this season's walnut crop is not flattering. Owing to the warm and dry weather, the nuts have fallen from the trees in such quantities as to seriously alarm the growers. Even should cooler weather prevail, with sufficient rain during the balance of the growing season, the crop will fall below that of last year. The records show that in the year 1904 there was a total export to the U. S. of 2,930,000 kilos (a kilogram is 2 1-5 lbs.) of walnuts, of which 380,000 were shelled walnuts, and 2,250,000 kilos of walnuts in the shell, valued at $696,768. It is impossible to quote prices now, but hope later on to report fully in regard to this matter.—From report of D. J. Murphy, American Consul at Bordeaux.

WHEAT, rye, oats and barley are dependent on POTASH for proper nourishment to produce full, heavy kernels of fine milling quality, and strong stalks which do not lodge.

A complete fertilizer, containing not less than 6 per cent. of actual POTASH, is best for grain. A larger amount may be frequently used with added profit.

Our books on agriculture will be sent free to all farmers who write for them.

Address, German Kali Works, 93 Nassau Street, New York.

Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

Blue Gums

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity

Geo. B. Warner, Santa Ana, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297
Pasadena, Cal.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS

ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.

WRITE FOR PRICE LIST

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator.

General Agricultural Notes

THE PANAMA CANAL VS. DITCHES

The Panama canal is conceded to be the giant undertaking of the age, a project upon which the French have failed, the United States will now take hold and build. We will construct the Panama canal beyond peradventure of a doubt and it will become the greatest and most important waterway in the world, with untold possibilities to commerce and the strategy of possible warfare. What will it cost and when will it be completed? Engineers predict in 12 or 15 years and estimate an expenditure of 200 million dollars. Yet it will be observed that the wording of these estimates is provisional and qualified both as to the amount of treasure necessary for the work and as to the time of completion.

But while this great American work is going on, or rather its preliminary surveys and excavations, Uncle Sam is doing another engineering work which promises even greater results than the Panama canal. The truth of this becomes manifest to the most unthinking upon a little reflection. The government has now under consideration —one is already established—seven great irrigation projects in the West involving the reclamation of some million and a quarter acres of desert land, at a cost of about 30 million dollars. A half dozen more are in the course of survey and commencement of work.

The fund for this work is constantly growing from the receipts of all the sales of public lands; moreover, as every dollar expended by the government must be returned to the fund by the settlers taking the land, the fund becomes a revolving one and is capable of use over and over again for building new works.

It is officially estimated that there are over 70 million acres of irrigable land in the West and it is admitted that an intensively cultivated, irrigated, agricultural community will support a population of one person to the acre, which would people the western half of the United tSates with nearly the present population of the entire country.

The cost of this great work would amount to two billion dollars—a work the vastest even entered into by any country in any time, yet costing the government not one dollar, for every dam and every canal constructed is paid for by eager settlers who flock upon the rich, irrigated desert lands. —Guy Elliott Mitchell.

STORING POTATOES.

The easiest way to store potatoes is to pile in ricks on the ground and make roofs of boards. By this method there is usually good ventilation, compared to depth of pile, and it can be kept dark, and nearly at the temperature of the soil.

When stored in the cellar the very important things are, ventilation and exclusion from light.

Some good suggestions, applicable to any locality, are given in a recent number of the Prairie Farmer:

Instead of piling the potatoes against the wall or on the floor, slats should be nailed a little apart, about six inches or more from the wall. This will give a circulation of air behind the pile. A temporary floor should be put down with cracks between the boards. This will permit air to circulate under and through the pile. Then if the piles have to be made very large, square ventilators of wood, made of slats and running from the top to the bottom of the pile, could be put in here and there through the pile. These with the ventilation afforded at the sides and the bottom will keep the potatoes in much better condition than if they were in a solid pile.

Another good plan is to keep the potatoes in large crates made with slats close enough together to prevent the potatoes getting out. The ventilation between these crates would assist very much in keeping the tubers in good condition. Thousands of bushels of potatoes are lost every year when there is disease in the crop by neglecting ventilation. The temperature of the cellar or storehouse should be kept as nearly 33 degrees to 35 degrees F. as possible. The cooler potatoes are kept without freezing the better.

Not only is the value of the tubers for seed greatly lessened by sprouting, but they are also much injured for eating. Moreover, if the potatoes are held over to sell in the spring, there will be a great deal of shrinkage in weight if potatoes are allowed to sprout. It is important to have some means of letting cool air into the cellar towards spring when it is difficult to keep potatoes from sprouting. The cool air should be let in at night when the temperature is lowest and the cellar kept closed during the day.

Sometimes it is difficult to get all the crop to the cellar at digging time and when this is the case they may be put in piles of forty bushels and covered with straw, a little earth on top to keep them dry, more earth being put over the straw, if the weather becomes cold.

SOMETHING ABOUT FORMALIN.

Farmers have often asked the questions: "Must the solution which is made up for treating seed grain all be used up the same day?" "Will it grow weaker from standing?" "Must a new lot of solution be made each day?" "Does the standard formaldeheyde lose strength if left uncorked?"

We have thought it worth while to make some special tests of this matter of evaporation and the results are a surprise.

We have boiled formaldeheyde of many strengths and tested both that which evaporated and that which remained in the still; and we have made similar tests after slow evaporation at ordinary temperature. The results are always the same. Solutions of formaldeheyde grow stronger by evaporation; that is, water is given off faster than formaldeheyde.

This is an important fact. The farmer can therefore rely on a solution which has stood open for a number of days being fully as strong as when first made.

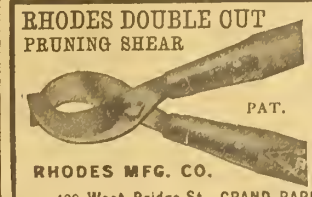
It also gives us a pointer in regard to weakening or adulteration. Solutions of standard formaldeheyde do not grow weaker from long standing unless water is allowed to get into the bottle or carboy. This also settles the complaint of the druggists that "farmers who fail with smut treatment do so because they carelessly allow the formaldeheyde to lose its strength by evaporation." And finally, it shows that the manufacturers of formaldeheyde who contend that it is difficult to make water hold 40 per cent have not, perhaps, tried as hard as they might. Full details of this work will be given in the Annual Report of the Experimennt Station for 1904—North Dakota Experiment Station Bulletin.

Exportation from the Philippine Islands of the dried kernel of the cocoanue, known as copra, is shown by the recent Philippine census to be steadily increasing and promises to become of great commercial importance. The value of the exports of copra and cocoanuts for 1902 was $2,701,783.

IT'S PENNY WISE

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow St., Los Angeles.

RHODES DOUBLE CUT PRUNING SHEAR

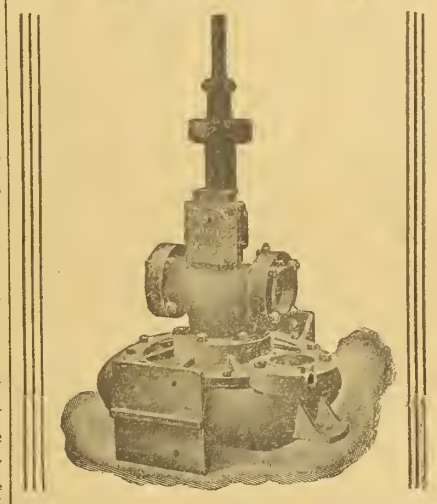


Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.

RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

When writing advertisers mention Cultivator.

PUMPS!



Jackson's High Efficiency Vertical Shaft Centrifugal Pump

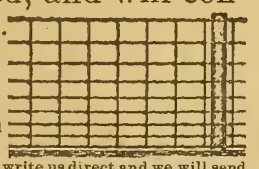
This pump can be submerged and will run equal y as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS
411 Market St. San Francisco, Cal.

When writing advertisers mention Cultivator.

AMERICAN FENCE TALKS
By the Makers

There are many fences on the market. Some tell of their wonderfully hard wire; others speak of new form of construction that make all other forms look ancient and worthless. But through all this it remains a fact that more miles of American fence are in use than of all others combined, and will continue so.



American fence is for sale by the dealer in your town. You can find it there, examine the different styles and make a selection to suit your requirements. Or, write us direct and we will send you a catalogue and tell you where you can get the fence.

THE AMERICAN STEEL & WIRE CO.
CHICAGO NEW YORK
DENVER SAN FRANCISCO

YOUR EASTERN FRIENDS

Should know that the Low Colonist rates are now in effect from Eastern Points to Southern California via the

SALT LAKE ROUTE

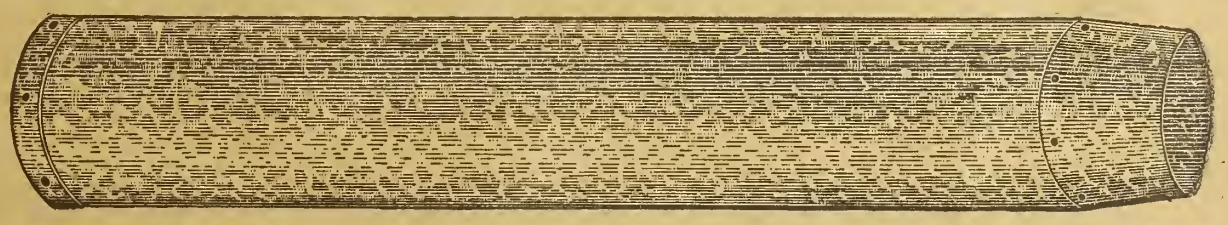
From Chicago	$33 00
" St. Louis	30.00
" Kansas City	25.00
" Omaha	
" Council Bluffs and	
" Missouri River Points	

Fast Time — SALT LAKE ROUTE — Elegant Equipment

Through Tourist Sleepers Daily between Chicago, St. Louis, Omaha, Kansas City, Hannibal, St. Joseph and Los Angeles.

Information gladly furnished by any representative of the Salt Lake Route, or by addressing

E. W. GILLETT, Gen. Pass. Agt. T. C. PECK, Asst. G. P. Agt. Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** *WRITE FOR CATALOGUE*

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 29, 1905

CONTENTS. Page.

Silo Construction 291
Onion and Its Culture 292
Feeding Bees 293
Parasitism 295
Outlook for Citrus Industry 295
An Ounce of Prevention 295
Good Gardens Not Costly 296
Rural Improvement 296
Agricultural Notes 297
Editorial 298
News Notes 299
Dairy Side Profits 300
Care of Milk 300
Model Dairy 301
Queries and Suggestions 302
Roup Cure 303
Poultry Question Box 304
Advertise Your Yards 305
Household 308-309
Climate and Crop 311
Markets 310-311

The Practical Educator.—The San Francisco Chronicle makes the following observation in reference to one of the newer men in public agricultural work in California:

"P. H. Dorsett, who is in charge of the national plant gardens at Chico, is reported by all who know him and his work to be the right man in the right place. Doubtless, he is a "theorist," but, in addition, he is said to possess the merit of being an all-round and remarkably successful "practical" farmer who can make anything grow where it can be made to grow at all."

It is a happy combination where education and practical knowledge obtain in one man. It is fortunate, in the best sense, to find such an one for the experimental stations of California. Those are the men needed today in our public agricultural stations.

It should be remembered that the education that counts is the one which teaches how to do the practical things, those things for which there is a demand. The age demands a thorough knowledge of the things necessary to bring results.

Our agricultural schools and colleges ought to turn out not only scientific men and women, but practical operators as well, for the need of the world is for the dual purpose teacher, the man who knows, and can put his knowledge to practical account.

Farmers' Unions.—Every now and then we hear of farmers going into "unions" to better their condition. The thought takes the form of an epidemic, sweeps over a district more or less broad, as the case may be, and then dies out.

The last case which has come under our observation is that alleged to exist in Wisconsin and Minnesota, where the union spirit is reported to have taken possession of the country people to the extent of their uniting with the Chicago labor unions.

For the life of us we can not discover where the farmers of these States, or any other, can be benefited by uniting with the American Federation of Labor, the name by which the unions in Chicago are known. We might see, and indeed we do, where the farmers would be benefited by a co-operative association for mutual protection in many ways, but the idea of a farmer submitting to the dictates of walking bosses who would tell him how to run his business is of all things most absurd. In the first place no one can tell a farmer how to manage his farm, it is a proposition which he alone must work out, depending as it does upon so many different conditions. In the second place we doubt if he could be fooled into believing, for any great length of time, in the virtue of heeding the mandates of a boss, or of paying dues into a treasury which would go to support a worthless lot of vagabonds known in genteel terms as "walking bosses." We remember when this spirit of unionizing took possession of the farmer politicians of some of the States of the Middle West. It lasted just long enough for a few shrewd fellows to get fat jobs in county and State politics, and then the farmers got wise and abandoned the enterprise. The rule is, that farmers, as a class, are too intelligent, too self reliant, too independent to ally themselves with any union, the only purpose of which is to line the pockets of walking bosses and loafers. The average tiller of the soil has no use for trades unions nor for trades unionists. Farmers as a rule attend to their own business, work steadily, live frugally though comfortably, obey the laws of the land, respect the flag of their country, and discharge their duties as citizens. They would be out of harmony with unions made up of men whose interests are in no way concerned with theirs. If the farmers could unite on a plan which would be broad enough to protect their interests against the combines formed to farm the farmer, as was and is the case with the beef trust, they would have a union which would benefit them, but to transform them into trades unionists would be foreign to their calling and last only long enough to open their eyes to the fact that somebody is working them for support, at the same time depriving them of their right to hire whoever they please to assist them in their work, and to discharge whoever they may wish for whatever cause they may see proper.

Fortunately for the country, the farmer always has had independence and good sense, and it will be a long time before the mass of the tillers of the soil will surrender these to the dictation of any trades unions, or anything else.

* * *

Only a Beginning.—The plea of guilty entered by four officials of the meat packing firm of Schwarzschild & Sulzberger Co., in Chicago last week, followed by a fine of $25,000 imposed by the Court, is only the opening chapter of a series of convictions which will follow one another, as rapidly as the guilty packers' cases can be reached in the Federal Court. For a series of years this packers' combine, which includes every packing plant from Chicago to the Coast, has been accumulating wealth to an astonishing degree by first robbing the producers of beef and pork, and then holding up the railroads for rebates. So vast has become the capital of the combine that it was feared no law is in existence which is strong enough to clinch the illegal operators of the scheme and secondly, that the government would not be able to secure legal talent of sufficient calibre to cope with the cotrie of eminent counsel retained by the defendant corporations, for it must be remembered that not only are the packers in the toils, but the railroads as well, they having granted the illegal rebates demanded by the packers. It is well known that the railroads of the country employ the very ablest lawyers to be found in the United States, and against them will be placed the government attorneys, usually a class whose legal abilities are good, but not the best, because the salary of $4500 which the district attorney receives as his annual compensation, is not sufficient to warrant the brightest lawyers, as a general thing, tying themselves down to government business alone. But the President has determined to break up the beef combine and to do this he will summon the fullest energy of the government and bring to its support the strongest legal ability he can find, which he can obtain. The law may be defective in some essentials, but it is apparently clear enough to cause the packers sufficient uneasiness to hasten to throw themselves upon the mercy of the court, as was done last week in Chicago.

The stockmen throughout the United States have reason to be glad that at last the end of the packers highway robbery scheme is in sight.

* * *

Advertising Does Pay.—The other day a patron of the Cultivator telephoned the business office this message: "Stop my ad. I am sold out." Then followed the voluntary suggestion, "I have had the best results from advertising in the Cultivator of any agricultural paper I have used." Now this was saying a good deal, for there are several newspapers in the State of the general character of the Cultivator, and this advertiser has tried about all of them. To say he has had the best success from his advertisement in the Cultivator, of any paper he has used, is certainly a compliment to the Cultivator, as well as to its intelligent readers who, each week, reach an average of 20,000 or more.

Barnum, the "greatest showman on earth," as he used to call himself, always contended that he got the best results from advertising in the highest class of papers, hence his advertising managers and agents, always put in their showiest cuts and announcements in the religious papers, where they could get in. The Independent, the New York Advocate, the Pittsburg Christian Advocate, and other great religious papers, were always sought as mediums by this live and humming showman, whose spirit of vivacity and vim made the whole world his friend—and him a millionaire. He realized the power of the high class journal to forward his enterprise. The Cultivator is a growing proposition in California, it is pushing into new territory each month. It is adding to its clientage men and women of character, intelligence and push. They read the advertising columns of the Cultivator for what they want to buy along agricultural lines, and they tell us that almost always they find goods as represented.

This speaks well for the reliablity of our advertisers and for the close discrimination used in admitting advertisements. Naturally, sometimes an advertisement will go in the paper where facts subsequently develop that it is unreliable. But this seldom occurs and such advertisement is taken out as soon as the facts are discovered. The Cultivator is exceptionally a fine medium for reaching the farming public, and more and more will this prove true as the paper extends its acquaintance and brings to its support the wide-awake new citizens of the State.

* * *

Rockefeller's Prediction.—The other day the telegraph reported John D. Rockefeller, in an interview with W. H. Moore, president of the Good Roads Association of the United States, as saying, that in 1907 and 1908 this country is going to experience a "hard times crisis."

Now, in the first place, it is to be doubted if Mr. Rockefeller ever made the prediction, but if he did, he certainly had a motive for so doing. He is either seeking to create a "hard times panic," in which case Standard Oil would profit immeasurably by a slump in the general market, or he is mad at Mr. Roosevelt because of his attitude on trusts and combines and wishes to bring on hard times out of revenge.

It is unreasonable to suppose, however, that a man of Mr. Rockefeller's experience would make any such statement. His interests are too general and diversified. But allowing that he made the prediction, where is the basis for it? At present it does not appear. The general business situation is satisfactory. The railroads report a greater volume of business than they can handle. Large orders for steel rails, for locomotives and freight cars have been placed in the car works of the country, which will take two years to turn out. The crop statistics are satisfactory and no special discontent exists between labor and capital. So, all around, conditions are good. The feeling of confidence is well grounded. It will take a good while to turn back the hands of industry on the clock of national prosperity. No, we doubt if Rockefeller made the prediction attributed to him, but if he did, he had a motive. Time will tell.

By error, in last week's issue of the Cultivator, the credit was not given to the California Promotion Committee for courtesy of the use of the cut "The Golden Orange Harvest in Riverside." The committee is doing a great amount of work in showing the merits of California, spending much money and attracting settlers from all parts of the East. Not the least of its efforts is the publication of "For California," always filled with information for new-comers.

By an exeuctive order, the President created one of the largest forest reserve in the world this week. Four hundred and sixty-five thousand, nine hundred acres of virgin timber land in Southwest Utah, located in Washington and Iron counties, are to be cared for by the United States. The government expects to show what can be done with scientific forestry in the saving of big forests.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

It is claimed that the Toluca valley has been sending from $1000 to $1500 worth of fruit and melons to Los Angeles every day since June.

The Experiment Station has three experts now at Vacaville engaged in pear blight work who will help the pear growers in combating this disease.

The Santa Ana valley Walnut Growers' Association are arranging to receive walnuts about October 1st. The crop in that vicicinty is reported to be ten per cent less than last year.

The Arlington Heights Fruit Company at Riverside, is adding to the groves by planting one hundred and seventy-five acres of lemons and two hundred and fifty acres of oranges.

The Diddle ranch in Mendocino county, consisting of three hundred and ninety acres, was sold last week to an Italian colony who will sub-divide it into twenty acre tracts and plant to vineyards.

The seedless grape crop in Sutter county has been very good this year and the harvest is nearly completed. About four hundred boxes have been shipped daily to Portland and San Francisco, but most of the grapes have been used for drying.

A dispatch from Santa Rosa states that all the wineries in that county are running full blast and the prices for wine grapes have advanced to about $18 per ton, though some varieties are bringing as high as $20 and in one case a sale is reported at $22 per ton.

At the annual meeting of the American Pomological Society held at Kansas City last Friday it was resolved to urge all congressmen to use their influence to secure the passing of legislation looking to the reduction for icing and refrigeration charges for the shipping of fruit.

The Redlands-Highland Fruit Exchange is a new organization of orange growers formed last week to market the crop of its members through the California Fruit Growers Exchange. The new association will have control of about one thousand cars. The main office will be at Redlands.

The California winery at Sacramento is crushing about three hundred tons of grapes a day, making thirty thousand gallons of wine. The company is paying from $12 to $15 for grapes, according to variety, and expect to produce not less than 1,500,000 gallons of wine by the end of the season.

The Fernando Press states that the owner of one of the largest olive plants in Southern California has offered the olive growers in that section from $30 to $35 per ton for oil olives on the trees, and it is thought that pickling olives will run from $60 per ton up. We hope to see these prices prevail, but they sound fabulous to us.

The C. C. U. has a crew of men at work fitting up packing houses in the Lindsay orange district, to be ready for shipments to commence about the 1st of November. The Union this year will run three houses—the Union house, the Lindsay Ranch Co. Association, and the new house built by Capt. Hutchinson, at that place.

The annual meeting of the Tulare County Citrus Fruit Exchange was held last week. The report showed that the membership had more than doubled since last season. The average f.o.b. price received the past year was as follows: Navels, $1.62; seedlings, $.92; lemons, $1.47; Valencias, $2.38. The Exchange shipped last season nearly 131,000 boxes and received for them $205,369.57.

The news is given out that Prof. E. H. Twight of the State University, has succeeded in finding the cause of the mysterious "red leaf" vine disease. The plague is due to the ravages of a tiny, eight-legged mite of the spider family. Professor Twight says he will check the spread of the scourge by killing the larval forms by spraying matured mites, and if any insects remain he will use sulphur later in the growing season.

It has been claimed by interested parties that the orange crop the coming year will be much heavier than the past season and this statement has been generally accepted by growers all through the southern part of the State. This statement seems to have been premature as it is now claimed by prominent fruit men at Redlands and Riverside that many of the older groves will have only a scant showing of fruit, and they claim that the output will be even less than for the past season.

In an interview with Alden Anderson, manager of the California Fruit Distributors, at Sacramento, last week, he stated that up to September 20th there had been shipped from this State a total of 5587 cars of fresh fruit. There are yet to go from 2300 to 3000 cars, the amount depending upon weather conditions. Mr. Anderson made the further statement that the fruit industry of the State as a whole will be better this year than ever before and that the shipments will bring to the State at least $4,000,000.

The annual meeting of the West Ontario Citrus Association was held last week. The annual report showed the season's shipments to have been one hundred and eighty-two cars, as compared with one hundred and fifty-six cars of the previous year. Cash paid to growers for oranges was $55,212.52 this season, as against $46,270.81 last. The average payment to members for all grades and pools of navels was $1.08 per hundred pounds, or $.74.9 per seventy pound box. For all grades of Valencias the average payment to members was $2.36 per box.

The harvesting of the apple crop in Pajaro valley is now on in earnest. Solid trains of this fruit are being sent out daily. Several of the packing houses are working night shifts to meet orders pouring in. Never before in the history of the valley was the crop so large, free from blemish and of such excellent quality and prospects are that prices will be unusually high during the whole season. The fruit now being shipped out is nearly all of Bellefleur variety. The heavy movement of Newtown pippins will commence about the 1st of October.

At the annual meeting of the Southern California Walnut Growers' Association, held at Los Angeles, Saturday, prices were fixed as follows: Soft shell walnuts, 13c per pound; standards, 12½c per pound; second grades at 4c below first grade. These prices are one cent higher than last year, owing to the shortage of nearly seventy-five cars, and the fact that the demand is increasing at a greater rate than the production. Orders are already in from eastern dealers covering nearly all the output from Southern California for this season. This association represents about 25,000 acres of walnut groves, the output last year being 506 cars of 20,000 pounds each.

AGRICULTURE.

The hop harvest in the Pajaro valley begins this week and, with few exceptions, the yield will be comparatively light.

Geo. C. Powers, manager of the Rancho Del Norte, Ventura county, estimates the bean crop at fifty per cent heavier than last year.

More alfalfa will be sown in the Imperial valley this fall than ever before. There will also be quite an acreage planted to vineyards and small orchards if the nursery stock can be secured.

H. F. Blanchard, from the Agricultural Department at Washington, arrived at Berkeley last week to assist Prof. T. W. Shaw in his work of conducting experiments designed to increase the gluten in California wheat.

H. H. Evans finished harvesting his big wheat crop in the Perris valley last week. His harvester had been at work seventy-two days and had cut over thirteen hundred acres of grain. The crop proved very good on the whole tract, parts of it making an average of seven sacks per acre. The quality of the grain was very good.

Here is a corn stalk story from Shasta county. John Smith, a farmer at Montgomery Creek, has four acres planted to corn of the ordinary kind that has grown to startling proportions. All over the field the stalks range from fifteen to sixteen feet tall and the lowest ears are too high to gather without the aid of a step ladder.

Articles of incorporation for the California Hop Growers' Association were filed at Sacramento last week. The new organization includes many of the prominent hop producers of the State and its purpose is the selling of hops owned by members who are producers. Agents of the association will be sent into eastern markets so that they will be able to place the crop of each member to the best advantage. The cost of marketing through the new organization will be simply the pro rata cost of selling.

LIVE STOCK.

Glanders are reported to have broken out among horses in the Lemon valley near Pomona.

A new dairy company has been incorporated with a capital stock of $75,000 with headquarters at La Mirada, Los Angeles county.

S. W. Culbertson recently shipped sixty head of dairy cows from Willows to his farm at Selma, and will go into the dairy business quite extensively.

The Chino Champion reports that poultry raisers about that town complain of losses to their flocks from chicken-pox, one party losing two hundred birds.

The new creamery building at Jacinto, Glenn county, is to be completed and ready for business by the 15th of October. N. A. Chisholm, well known in Southern California as a Jersey breeder, is the secretary of the new company.

The dairymen of the central part of the Imperial valley met at the new town of El Centro last week to discuss the feasibility of forming a stock company to start a creamery. It is claimed that backing can be had for the enterprise.

A correspondent in the Anaheim Gazette from Buena Park states that the dairy men in that section are dissatisfied with the price received for milk at the creameries and will, after October 1st, ship their milk to Los Angeles, to be sold at retail.

A new sheep shearing machine is being operated on a ranch near Santa Rosa and it is claimed that the machine and one man can shear two hundred sheep per day. The machine is built upon the same principles as a horse clipper, and the motive power is supplied by a two horse gasoline engine.

We learn that after October 1st the Pacific Creamery, located at Buena Park, will not take skimmed milk, nothing but cream is wanted. This new order is claimed to be brought about by the fact that the creamery has more condensed milk on hand than it has market for and until the surplus is disposed of only the cream will be handled.

Nearly all of the fall clip of wool is now at the warehouses at Red Bluff and Corning, and the growers are anxious for the market to open. The wool men are anticipating from eighteen to twenty cents a pound, while the buyers talk of twelve cents. Tehama county has over 600,000 head of sheep, making it one of the largest wool producing counties of the State.

A test trial is now being held at San Francisco to determine the constitutionality of the law passed at the last session of the legislature requiring all venders of butter to mark plainly on every package sold the weight contained in such package. At this trial, Robert Dietrich was fined $20 with the alternative of spending twenty days in jail for violating its conditions. He has applied to the Supreme Court for a writ of habeas corpus.

MISCELLANEOUS.

Hanford and Santa Rosa are each making an effort to secure the coming State Fruit Gowers' meeting.

The open air tuberculosis ward at Mendocino State hospital has proved such a success that the capacity has been greatly increased.

The King Fruit Co., of Pomona, is a new citrus marketing organization recently incorporated and has let the contract for the erection of a packing house near Ontario.

A dispatch states that the Internal Revenue Department has placed men in all the wineries and distilleries in the southern part of the State to supervise the fortification of sweet wine in accordance with the new law.

C. H. SESSIONS, ASSOCIATE EDITOR

DAIRY SIDE PROFITS.

A writer in the Ohio Farmer, in speaking of the side profits from the dairy, says:

It used to be thought that all there was to be gained from a dairy farm was the milk or butter produced. No effort was made to get anything out of it aside from the value of those products sold, unless it might be when now and then a "deacon skin" was turned off for a song or when a cow had become old and worn out as a member of the dairy farm household she was fatted and disposed of for beef or salted down for home consumption. The man who depends on that narrow line of revenue in these days has a pretty strenuous life to live. In fact, few now attempt to do it. There are numerous side issues with the dairy farmer. One of these is the fattening of calves. It has become quite profitable to do this. From every cow at least one calf may be sold at a price varying with the season of the year and the locality in which the farm is located, but averaging probably six dollars each. Then, there is the line of raising calves for disposal later in the season or as additions to the home dairy. Here considerable profit may be realized. Cream, the old-fashioned "Dutch cheese" and buttermilk have also a large place in the latterday income of the dairyman. And they all count up nicely when it comes to footing up for the year.

But there is still another branch of dairy farming which does not seem to be made as much of as it will be, in my opinion, in the near future. I refer to the matter of growing nice calves, of either sex, for sale to other dairymen. Here is a field which is not likely to be overcrowded for many years, if, indeed, it ever is. An acquaintance has for some years kept Holstein cattle. His farm being rented to a tenant, he has only had the general oversight of the stock himself and only slow progress has been made in this direction. Now, however, his tenant has awakened to the desirability of having a few nice calves or young cattle to sell each year. He sees that the sale of a single individual may, sometimes bring in almost, if not fully, as much clear money as he could get from a single cow by working the whole year round. Another gentleman informed me only recently that he often sold a single young cow or calf for fifty and sometimes seventy-five dollars. "I am going to do more on this plan," he said. "I think farmers ought to specialize more than they do. There is almost always someone who wants a nice, pure bred calf at some price. If we can take in as much for the calf as we do for the whole year's work from the mother, it seems to me it is worth looking after."

To do this successfully, a man should do some advertising. He may do this by using the pages of some good, reliable dairy and farm paper, or by attending the State and local fairs, or both. No one can sell what people do not know that he has. He must let it be known that he has good stock at fair and reasonable prices. For this purpose, nothing is better than a good farm paper.

In order to establish one's self well in this direction the dairyman must be honest. This is not a reflection upon the great body of dairymen. I believe that they, as a class, are upright men. My thought is, that it will not do to sell an animal which is known to be inferior at a high price. One such sale may be the means of a man's undoing. It ought to be, too. None of us likes to be deceived and tricked into paying a big price for a thing that was never and never will be worth the money. It takes years of hard work to build up a dairy, and if a man has what he believes to be a good sire or a likely mother and breeds right along from them, think of the time and the hope and the money that is lost and worse than lost if it turns out that his stock is worse than he had to begin with. But if a man is fair and honorable in his dealings; if he had a good line of stock and uses right methods of placing bis stock before the public, there is little room for doubt that valuable additions may be made to the dairyman's bank account.

THE HOUSEHOLD CARE OF MILK.

When milk has been found to contain impurities, or sours more quickly than it ought to, the fault is laid at the door of the milkman, the dealer, the milk station, the farmer or the cow; but in many instances it does not occur to the person who finds fault to lay it just where it belongs, but where it is seldom brought home, and that is to the housekeeper.

While the fact is a lamentable one, it is nevertheless a fact that 20 per cent of the housekeepers of this country know little or nothing of the way milk should be cared for. Sweet milk is good milk; sour milk is bad milk. So much the average housewife does know; but as to what makes sweet milk good, or sour milk bad, why milk sours and how to keep it from that condition—she knows mighty little.

When there is trouble with the milk supply, the consumer finds fault with the milkman; he in his turn blames the trouble to the farmer; the city and suburban daily press (whose ignorance on the whole subect is equalled only by its wild statements as to prevailing conditions) howls at the milk stations; and the superintendent of the station swears by all his gods that the milk was in perfect condition when it left him, and that any impurity or adulteration must have got into it after it reached the city; and so it goes. It has apparently never occurred to the minds of either the dealer, the newspaper editor, the creameryman or the farmer that no matter if the milk has been produced under the most perfect sanitary conditions, kept in the same state in the milk station, iced in transit, properly handled by the milk com-

Sharples TUBULAR CREAM SEPARATORS
Demand a Look Inside

DAIRY TUBULAR BOWL—All Apart
"Bucket bowl" separator makers falsely claim to make separators with light, simple, easy-to-wash bowls. We are the only makers who dare show a picture of our bowl—all others refuse. There are secret difficulties about other bowls the makers want to hide. Pictures would betray them. Other makers fear pictures. Our handsome Catalog Z-200 tells these secrets. Write for it today.
THE SHARPLES SEPARATOR CO.
Toronto, Can. WEST CHESTER, PA. Chicago, Ill.

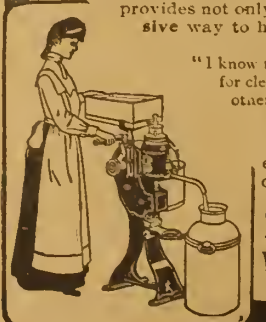
CLIFFORD'S ANTI LUMP JAW
Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing "Clifford's Anti Lump Jaw"—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.
Our Hog Cholera Remedy is guaranteed to cure Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.
Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our Chicken Cholera and Roup Remedy will cure all diseases that the feathered fowl is heir to.
CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DE LAVAL SEPARATORS
AND OUR LINE OF DAIRY AND CREAMERY MACHINERY
are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

Riverside Herd of Holsteins
CALIFORNIA'S FINEST
Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.
PIERCE LAND AND STOCK CO.
RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON 884 James Flood Bldg., San Francisco

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

DOES IT EASILY, TOO!
If you keep cows, you want to get all the cream, for that means the most profit; and it's economy to get it the easiest way with the least work and bother. The improved
U. S. Cream Separator
Which Holds World's Record for Close Skimming
provides not only the most profitable, but the easiest and least expensive way to handle your milk.

Bethel, Me., January 11, 1905
"I know that the U. S. Cream Separator stands ahead of anything else for clean skimming and I can make more butter with that than any other way and it turns easy. I run it and the children run it.
"MRS. E. E. CHASE."
Send for booklet No. 378-A, illustrated in colors, explaining in detail about the durable and simple construction of the U. S., and showing plainly why it
Gets the Most Cream
VERMONT FARM MACHINE CO., Bellows Falls, Vt.
18 Distributing Warehouses throughout the United States and Canada 416
Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

pany in the city and delivered to the consumer in the best possible condition, it will not keep sweet and wholesome if it is not properly cared for in the household.

Where does the milkman generally leave the milk bottle or pitcher or pail, or whatever receptacle the family puts out for him to fill? Generally where it stands for anywhere from one to three hours, with very often the sun shining full on it. Now that same milk has been handled carefully from the moment it left the udder of the cow to the time it was left on the doorstep to prevent two things—the introduction of any foreign matter, and a rise in temperature, both of which aid the rapid development of bacteria which sour the milk. In the case of bottled milk, the rising temperature alone is to be feared, as the bottle is hermetically sealed; but in the case of open pails, pitchers, etc., there is the added danger of dust and dirt, and even, if there should be disease in the neighborhood, the probability of the germs being conveyed to the milk. In such cases, is it fair to blame anybody but the careless housekeeper if the milk should quickly sour?

Too many housekeepers put the milk for safe keeping in the refrigerator with cold boiled onions, cabbage, turnips, cucumbers, melons, strawberries, etc., in close proximity to it. Very often it is not covered. When it is taken out for use, it has a queer taste, or is "just on the turn." Milk absorbs odors as a sponge does water.

Again, the housewife will sometimes find that the milk has a "decayed" taste, if we may use the expression—that is, a taste and even an odor of putrefaction. It is not sour, neither does it taste or smell like sour milk it is rather bad, and sometimes bitter. This will be the case when it has been kept in a dark closet or refrigerator for some time. There is a class of bacteria, called putrefactive bacteria, which thrive in darkness; and they give the milk the odor and taste above described. This applies to milk that has been pasteurized.

Another fruitful source of quick souring is the putting of milk into or keeping it in vessels that are not thoroughly cleansed. Any receptacle for milk should be perfectly smooth on the inside, with no ridges, flutings or crevices; it should be absolutely sweet and clean before the milk is put in it, and should be kept covered always. Never leave milk exposed to the air when not in use. After a bottle or pitcher or pail has been emptied of milk, rinse it out with cold water first; then with hot water and soap powder or ammonia, then with clean hot water; and lastly with clean cold water. If it is possible to keep these receptacles covered when not in use, do so; it keeps dust and dirt out of them. Never wipe the milk receptacle.

Almost every housekeeper will put back into the milk bottle the milk left over from a meal, mixing that which has not been on the table with that which has. This should not be done. Put on the table only what you will need, and place the rest in the ice box, tightly covered. If any should be left on the table, put in a separate receptacle. The milk that has been in use has a higher temperature than that in the ice box, and has also particles of dust in it from the air, and it will cause the keeping quality of the other milk to deteriorate, if mixed with it.

If, for any reason, ice is not available, milk may be kept sweet by standing the receptacle (which should always be covered) in a deep vessel of cold water, having the surface of the water higher than the level of the milk. It is best to keep water running into the vessel, if possible. Another way is to wrap a cloth—flannel is the best kind—very wet with cold water around the bottle or pitcher in which the milk is contained, and stand it in a current of air. Keep the cloth wet, and your milk will keep almost as well as if on ice.

I wonder how many housewives can truthfully say that they return, sweet and clean, all the milk bottles the milkman leaves at their doors Do not a good many of us use one to keep vinegar in, another for cider, another for molasses, etc? Don't we generally feel much less concerned if we break a milk bottle than if we break a cup or a plate? Let's be honest about it—we do. Perhaps if we all knew that every milk bottle cost the company from five to six cents, and that every milk company of any size uses thousands of them every day, we would be more careful to return them. The money locked up in bottles amounts to thousands of dollars every year; and when the net profit on a quart of milk is but ½c, every bottle is an item to be considered. Be fair to your milkman—give him back all the bottles he lends you; and for health's sake, give them back clean.

Nowadays every effort is made, from the time the milk leaves the udder of the cow until it is left at the home of the consumer, to observe two rules, viz., keep the milk clean, and keep it cold. It is the housewife's duty to see that these rules are still observed in the household. If she does not, the milk will lose in wholesomeness and palatability and the fault will lie, not with the long-suffering milkman, but with herself.—Country Gentleman.

A MODEL DAIRY.

The editor of the Sacramento Union describes, in a recent issue, a visit to a model dairy farm—that of J. W. Rea, in the Santa Clara valley. He describes at length the cement floors, cemented corrals, automatic weighing device, separators, pasteurizers, automatic milk bottler, milkers clothed in white duck, and especially the economy with which all the work is done. "The whole operation from the milkman's bucket to the distributing jar or bottle takes but a few minutes, and is automatic in the sense that at no point does the milk come in contact with anything excepting the pipes and machines above described, all of which are thoroughly cleansed with boiling water before and after each operation. Within ten minutes from the time the milk leaves the cow's udder it is cleansed, Pasteurized, chilled, bottled and sealed—warranted to keep pure and sweet in ordinary weather from forty-eight to sixty hours, or more than double the period under the ordinary processes.

"It was interesting to observe that the whole operation for the product of 100 cows from the milkman's bucket to the sealed jar ready for delivery was done easily by two men, both spotless in suits of white duck. The amount of labor, therefore, required for preparing the milk for distribution is less than that called for under the old system—or no system—almost universally employed. Thus two men with the aid of a mechanical plant carry on a work at once elaborate and simple, prescribed by the modern or scientific plan of handling milk."

But as to the moral and principal point made in the article, we note:

"Without men skilled in dairy processes, Mr. Rea's enterprise and capital, the principles developed by science and the devices provided by inventive and manufacturing art, would be useless. If the system enforced in Mr. Rea's model dairy is to become universal in California, if we are to have everywhere a sufficient supply of clean,

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

JOHN C. KEEFE, Sec'y
Orange, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, *if not the best* sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the *bull free of charge. I sell on merit.*

C. S. Burgess, Riverside, Cal.

Palm Glen Jerseys

Final Dispersal sale to highest bidder before Oct. 5th of nine head of the cream of Island and American bred Jerseys (see adv. page 253, Sept. 15th issue). Come and see, and get first choice at your own price.

A. B. WHITE, PALMS, CAL.

When writing advertisers mention Cultivator.

FOR SALE

Fresh Registered Jersey Cows, Seventy-Five ($75) Dollars each.
Yearling Bulls, Twenty-Five ($25) Dollars each. W. J. COLE, Anaheim, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of

Geo. W. Thomas, Riverside, Cal.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

When writing advertisers mention Cultivator.

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

When writing advertisers mention Cultivator.

SUNNY SIDE STOCK FARM

Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS, SACRAMENTO CO., CAL.
When writing advertisers mention Cultivator.

FOR SALE AT

Minnewawa Stock Farm

One pair dapple gray full blood registered Percheron fillies, 2 years old last spring.
One pair well matched gray geldings 4 years old, ⅞ Percherons, weighing 3000 pounds; well broken to single and double harness.

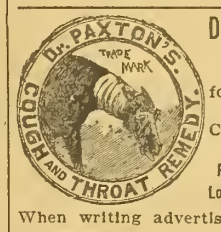
M. E. & W. N. Sherman, Fresno, California

When writing advertisers mention Cultivator.

Gold Medal Herd

JERSEY CATTLE
SOUTHDOWN SHEEP
BERKSHIRE HOGS

Thos. Waite - Perkins, Cal.



DR. PAXTON'S REMEDIES

for Distemper, Epizootic. Russian Influenza. Cough and Throat Remedies

Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles

When writing advertisers mention Cultivator.

The Rancho Verde Co.

OF

Victorville, California

Will buy thirty (30) head of Milk Cows if price and quality are satisfactory. They must be either Pure Bred Jerseys or Guernseys or high grades of either breeds, not under 3 years or over 6 years of age. None to give less than three gallons per day.

When writing advertisers mention Cultivator.

IMPERIAL VALLEY HERD

DAIRY SHORTHORN BULLS FOR SALE

Admiral Dewey 183493 and King Edward 184393 at head of herd. Address

Fred Fuller & Bro. Imperial, Calif.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE

Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

FRESNO, CALIFORNIA

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch

Box 321, Petaluma, Cal

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

Vaccinate Now

AGAINST

ANTHRAX

AND

BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory

322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

pure, wholesome milk and milk products, we must have an agency for the training of men in dairy work. The men in white duck who do the work in Mr. Rea's dairy must be duplicated in every dairy in the country.

Now, with all due respect to President Wheeler, the academic atmosphere of Berkeley will not produce such men in sufficient numbers to do this work. The training at Berkeley may indeed produce chemists competent to devise plans and direct the work of others, but it will not produce the army of men necessary to do the work. The development of such an army calls for another training, another stimulus, another atmosphere. Industry as distinct from science cannot be taught practically in a scientific school and in an academic environment.

Here is where the necessity for a special school in support of agricultural industry demonstrates itself. Here is the justification for the provision made by the last legislature for an agricultural establishment separate and apart from the University at Berkeley, organized for the promotion of practical industry, dominated by the ambitions and aims of practical work as distinct from scientific study."

DAIRY SHOW AT CHICAGO.

The dairy interests expect to have a national dairy show at Chicago during the month of February. This show will be to the dairy interests what the International Fat Stock Show is to the beef interests. Several thousand delegates are expected to be present; dairy associations, butter makers, cheese makers, creamery owners and operators will be in attendance. The best dairy cows in the country will be on exhibition and will be tested for milk and butter fat. A model creamery will be fitted out and operated and lectures on modern methods of butter and cheese making will be given. The exhibition will be held in the basement of the Coliseum.

AUCTION

178 Cows, Horses, Hogs

Thursday, October 5th, 10 A. M. Sharp

Corner Main and Manchester Sts, Two miles South of City Limits,

LOS ANGELES, CALIFORNIA

110 Milk Cows	45 Heifers
8 Horses	7 Steers
7 Hogs	1 Colt
2 200-Ton Silos	5 Bulls
60 Stanchions	Cheese Vat and Press

We are instructed by Mr. R. Orsi to positively close out by auction his entire Dairy Stock, as his ranch will soon be subdivided. He is quitting the business. Everything must sell. These cows are mostly fresh, big milkers, young and fine Dairy Stock. In good condition. Take Redondo Electric Car to Manchester St. Teams in waiting. Six months' credit given. Barbecue at noon.

Rhoades, Reed & Rhoades, Auctioneers

R. Orsi, Owner

J. A. CAMPBELL C. W. CAMPBELL

La Palma Stock Farm

We now have some of the very finest registered Poland China pigs of both sexes for sale. Also a few registered Jersey cattle, either sex.

Buena Park, Cal.

When writing advertisers mention Cultivator.

The Green-Marshall Co.

Manufacturers and Wholesale and Retail Dealers in

Paints, Oils, Varnishes and Painter's Supplies

So. Call. Agents for Berry Bros. Varnishes

550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena Also Long Beach Factory 15th and Alameda Sts., Los Angeles

When writing advertisers mention Cultivator.

Queries and Suggestions

LEAKING PIPE.

Regarding loss of water through porous pipe asked about in the last Cultivator, Edwin Squire, a civil engineer of Claremont, writes as follows.

Editor Cultivator: If S. F. and P. of Redlands, will run muddy water through their leaking cement pipe, I think it will, in a measure, stop the leakage. I have known this treatment to prove effective in very bad cases. If possible the clay should be thrown in just at or above a sand-box, in order to prevent sand or gravel being carried into the pipe where it might lodge and cause trouble. The line should be run full if possible so the particles of clay and very fine sand may reach every pore.—Edwin Squire, Claremont.

MORNING GLORY—FINGER STAINS

Editor Cultivator: Enclosed you will find two vines which I would like to have you tell me through the columns of the Cultivator what they are. The flower of the smaller slip is something like a morning glory, of an orange yellow color, but I have never seen the blossom of the other plant, however, I suspect that they are both morning glories. Is there any danger of their spreading through an orchard where a few plants have appeared, and if so the best method to get rid of them?

Some time ago I saw in the columns of the Cultivator a recipe to remove walnut stains from the hands, but have been unable to find it again. Would you be kind enough to publish it again?—Gas. S.

Your plants are doubtless both of the morning glory family, the yellow flowering one is probably an introduced plant, Dichondra repens by name; the other may be any one of two or three species of Convolulus (morning glory). No one can identify plants without at least having flowers.

There is danger of their spreading; at least it is well to watch them to determine that point. If of the "Hedge Bindweed" or Asiatic morning glory, it's a terror. Digging or cultivation is unable to cope with it unless exceedingly persistent. Methods of control given in the Cultivator in the past: Cover ground heavily with salt, so thick a coating that leaves cannot push through. This "kills" the ground for two or three years. 2. Scoop out the ground above roots, fill basin with brine. Repeat in couple of weeks. 3. Cover ground with tarred paper after rolling and smoothing ground as evenly as possible. Hold down with dirt or stones all edges so as to exclude air and light. This will in time starve out the plant.

The material best adapted to remove walnut stains from fingers is the regular bleaching compound used in bleaching English walnuts. It is harmless to the hands and is made as follows:

Sal soda	16 pounds.
Chloride lime	20 pounds.
Sulphuric acid	1-4 pound.
Water, to make	50 gallons.

To prepare the bleaching solution, proceed as follows: Dissolve the sal soda in hot water and pour into a hardwood barrel having a wooden faucet about five inches above the bottom. Place the proper amount of chloride of lime in a tight-bottomed box and reduce it to a paste by using a hoe and a small quantity of water. Then put the paste into the barrel with the dissolved sal soda, and fill to 45 gallons with clear water. Mix it thoroughly and allow it to stand 48 hours before using, so that all the sediment may be on the bottoms and the liquid clear. When ready for use pour five gallons of water into an earthen jar and add the sulphuric acid very slowly—a few spoonfuls at a time—until all is added. Walnuts are dipped in this solution for about a half minute.

OPPORTUNITY FOR NEWCOMERS.

Editor Cultivator: We have been reading the Cultivator for several months and enjoy it very much. I have read considerable of California and have decided to make a trip there. Will you please advise me if there is any work to be had in the fresh air. What section is most healthy for lungs? Is there many opportunities for one with a small capital. Is the poultry business a success? How much land would one have to have to make it pay? What does land cost with matured walnut trees on it? I will thank you very much if you will answer through the columns of your paper. Also I would like to ask, is there good clay in California for the manufacture of bricks, and what kind of brick is made there. —W. W. Nuzum, Rochester, Pa.

That class of question is the hardest to answer of any which comes to this office. There is work to be had. Whether one not physically strong can get work, it is hard to say. Most of the dryer valleys are favorable to persons with weak lungs. There are opportunities for small capital, many having come here and done well. The poultry business is a success; it has made money for many. It is likewise a failure and has lost money for some. It depends, like every other business under the sun, on the management. Have you been a success with poultry in Pennsylvania and can you open your eyes to the fact that California conditions demand certain changes from the successful methods of Pennsylvania? If so, you can succeed here. If you have no experience, you should not be too hopeful of complete success here till you have felt your way and "learned the business." If you have grit and determination you willl learn and succeed. The amount of land needed may be a town lot or several acres. There are little ranches of two or three or ten acres near Los Angeles where the owners started with very small capital, and today have a comfortable home paid for. Bearing walnut groves, of thrifty and well cared for trees, command big money, say from $500 to $1000 per acre.

Clay is found here of finest quality and is used for all kinds of products, from fine pottery to sewer pipe, to pressed brick, fire brick and the coarsest and cheapest of brick.

STRAWBERRIES.

Editor Cultivator: Will strawberry plants which were set out one year ago and bore a full crop this season bear a full crop next season? or will I have to set out new plants? They are in matted rows. How will it do to dig up old original plants and let runners be? or shall I cut tops all off and let them come out anew?—Subscriber, Fallbrook.

You should have pinched off all runners and retained the original plant. As they are now matted together you will not get as large, fine berries, but as they are only a year old it will, perhaps, be wise to get out at least next spring's crop before replanting. Then plow up, manure heavily, replant with thrifty plants. Keep in rows to original "hill" and they will be productive of large berries for three years, if given good care and of good variety.

THOMPSON'S SEEDLESS GRAPE CUTTINGS.

E. E. Gerry, of Santa Paula, writes that he is able to supply recent inquirer with cuttings of Thompson's Seedless grape.

BORERS ON PEACH TREES.

Mr. Edwards of San Martin, wants to know how to rid his peach and prune trees of borers.

"The best remedy is prevention." Or, in other words, keep the trees from becoming sunburnt, which will in a measure keep the borers from entering the wood. They may be removed by chiseling out or using wire to remove them, but in such a case, so far as possible remove all dead or diseased wood. Another and more simple remedy is to smear around the trunk of the trees at and below the surface of ground with a mixture of four gallons of crude oil, being careful to select a heavy grade of oil, mixed with thirty pounds of lime. This is the remedy, we believe, which is now used most generally in the prune orchards of the Santa Clara valley.

COVER CROP.

Editor Cultivator: Will you please tell me what you think of planting peas for a cover crop for potatoes? At what time should I plant so as to turn in about the first of February? Would you recommend sowing rape with the peas? Where can I obtain the seed?—D. R. M., Compton.

The use of peas or any leguminous plant for the cover crop for potatoes would doubtless put the ground in much better shape, both mechanically and furnishing it with humus and increasing available fertility. You should plant at once if water can be had for fitting the ground. If not, at the very earliest possible moment. If the rains should hold off until late, you may be unable to secure the proper growth before it would be necessary to turn under and cover. They should be turned under while still green and succulent and some time before the planting of the potatoes to allow at least partial decay of the stems. We have not heard of sowing rape with the legume and do not think it would add anything to the value of the cover crop, providing a good stand of the peas is secured.

MEAT MEAL FOR GROWING PIGS.

J. R. Zuck, of Gilroy, asks if it is advisable to add any meat meal, bone meal, or blood meal, to the usual bran and middlings diet for young growing pigs.

The use of blood or meat meal has been most highly recommended for young, growing stock, especially pigs and calves. A pint of the meat meal or about the same of blood meal may be added to a twenty-four hour feed for ten pigs.

ALMONDS.

Editor Cultivator: Is hill ground well suited to almond culture. Also whether they need a rich or sandy soil and irrigation?—D. H. S., Santa Barbara.

Regarding location for almonds, Wickson's Fruits says:

"Almonds are now doing best on the higher lands in coast valleys, free from fogs and protected from direct winds, but subject to tempered breezes; also at various points in the interior valleys and foothills. The general proposition that lowlands in small valleys shuold be avoided, and bench or hillside situations preferred, seems to be a safe one. Lands directly upon the coast have not proved satisfactory. The almond prefers a loose, light, warm soil, and heavy, poorly drained soils should be avoided. Though they need moisture enough to make good, thrifty growth, they will produce good crops on soils that are too light or dry to grow satisfactory peaches, apricots, nectarines, cherries, or similar pulpy fruit."

From the above we take it that the almond would prefer the rich, naturally sub-irrigated soils, but in case the condition is not ideal, we take it that, without question, irrigation would be an advantage.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

ROUP CURES.

"I wish you would describe roup," writes a beginner, "so that I may know the disease when I see it."

The symptoms at the commencement of roup are those of simple catarrh and at first these two diseases cannot be distinguished from each other. Roup is very much like "grippe" or influenza in the human family and it is customary to call almost any ailment in the poultry yard "roup." Dr. Salmon in his learned book on the diseases of poultry under the head of roup, divides it into simple catarrh, roupy catarrh, bronchitis, pneumonia, congestion of the lungs and diphtheria. I think these should be considered as six different diseases, commencing with many of the same symptoms, but varying as they progress.

Roup commences like catarrh. The first symptoms noticed are a slight discharge from the nostrils, eyes wet and watery from mucus, and often some bubbling at the inner corners, with coughing and sneezing. So far the two diseases are similar; in a few days the catarrh will not have developed more serious symptoms, but with roup the discharge from the nostrils thickens, has a very offensive odor and obstructs the breathing. There is no odor in catarrh, but it is always present in roup. Sometimes the head swells, the eyes, one or both, close up, the bird becomes feverish, listless and without appetite. The birds wipe their eyes upon their shoulders, sleep with their heads under their wings and the discharge sticks to and dries on their feathers. This dried mucus will spread the disease, so chickens that have been using their wings as a pocket handkerchief should be separated from the rest of the flock, the mucus gently washed off, using a good disinfectant in the water. A few drops, or better still, a tablet of bi-chloride of mercury will kill the germs.

Simple catarrh, like a simple cold in the head in the human family, is not dangerous and can be easily cured if taken in the early stages. Roupy catarrh is more difficult of cure, is very infectious and often fatal. Diphtheritic roup is the worst of all. It is as deadly as diphtheria among children, and it requires different remedies to the catarrh or roupy catarrh. We will take the remedies for the first two.

In the treatment of roup the most satisfactory way to get the medicines where they will do the most good is though the use of an atomizer. I have, however, found a little sewing machine oil can a good, cheap and effective means of administring many remedies.

* * *

Remedies.—Influenza in fowls, as in the human family, can be treated in a great variety of ways and it is well to remember that the same remedies that are used in the human family can be used very effectively with fowls; for instance a pill of quinine and one of assafoetida, with half a teaspoonful of cayenne pepper, will frequently cure a cold in one night. Aconite also is a great help. I give one drop in a teaspoonful of milk, and that frequently cures in a night.

* * *

My Remedy, No. 1.—One tablespoonful of castor oil, half a tablespoonful turpentine, half a tablespoonful coal oil, six drops carbolic acid and half a teaspoonful of spirits of camphor. This I keep in a sewing machine can and squirt a drop up each nostril and into the cleft in the roof of the mouth, and for swelled head rub the whole head with it. This is an excellent roup cure, and cheap.

* * *

My remedy, No. 2.—A bit of blue stone (sulphate of copper) in the drinking water. A piece the size of a navy bean to a quart of water. This is very cleansing, is a germ killer, dries up the cold in the head, and is a great preventive of roup. If any chick takes cold, that whole pen has blue stone in the drinking water for a week to prevent the infection spreading.

* * *

Remedy No. 3.—A lady friend of mine, who has been fifty years in California and has been very successful with fowls, told me that after trying many of the so-called "roup cures," she, for the last thirty years, has found common kerosene oil the best cure. She pours one cupful of the oil into about three quarts of water in a pail; the oil floats on top. She then dips the whole head of the bird into this, holds it there whilst she counts one, two, three, slowly. The bird then coughs and sneezes and she wipes the mucus off with a rag, which she carefully burns. This is repeated twice a day, and she says it is a "sure cure."

* * *

Remedy No. 4.—A. F. Hunter, one of the oldest poultrymen in the East, gives the following remedy, which I have tried and found good: Take of lard two tablespoonfuls; of vinegar, mustard, cayenne pepper each one tablespoonful; mix thoroughly, and flour enough to make a stiff dough. Give a slug, about the size of the first joint of the little finger. One dose frequently cures, if not repeat in twelve or twenty-four hours.

* * *

Remedy No. 5.—Dr. N. W. Sanborn, in his "Reliable Poultry Remedies," says: "When you find a bird sneezing, or you notice a slight discharge from the nostrils, spray all mucus surfaces with the following: Extract of witch-hazel, four tablespoonfuls; liquid carbolic acid, four drops; water two tablespoonfuls. Do this twice a day, squeezing the bulb of the atomizer five times for each nostril and twice for the mouth. If there is any watery or foamy eyes, give one squeeze for each.

* * *

Remedy No. 6.—A medical friend gave me the following recipe, which he says acts like magic in curing a cold in the head in the human family and he thinks would be a sure cure for catarrh in fowls: One part of pulverized gum camphor and seven parts of

LARGEST POULTRY SUPPLY HOUSE IN THE UNITED STATES

MIDLAND
POULTRY FOOD

PER 2 BUSHEL SACK $1.70 PER 2 BUSHEL SACK

TO REDUCE STOCK AND MAKE ROOM FOR A NEW POULTRY FOOD. WATCH FOR ADVERTISEMENT LATER.

Henry Albers Co.

315 S. MAIN ST. LOS ANGELES, CAL.

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

powdered liquorice root. Snuff up the nostril for the human beings and for poultry blow up the nostrils and into the cleft of the mouth and down the throat. This should be made fresh as the camphor evaporates and loses its strength very soon.

* * *

Remedy No. 7.—For diphtheritic roup a very clever doctor, who was also a chicken raiser, many years ago gave me this: Equal parts of powdered alum, magnesia and sulphur blown into the throat and nostrils through a quill.

* * *

Remedy No. 8.—The best remedy now known for diphtheritic roup, or you might call it diphtheria, is undoubtedly peroxide of hydrogen. This is death to germs. It is a liquid, coming in strong bottles, tightly corked, and requires to be diluted with from three to six parts of water, according to the severity of the case. There is a good preparation of this, known as "hydrozone," that is often to be found at the drug stores. The solutions when applied to diseased surfaces at once begin to foam, and should be repeated until there is no more bubbling. A little of the solution forced into the nostrils by the use of a dropping tube or the atomizer is driven higher up into the nostrils by the force of the foaming, reaching parts otherwise out of touch. The worse the case, the stronger should be the solution and the longer it must be used.

* * *

These remedies, or "roup cures", are all good, most of them have been tested and tried for years, and may be used without hesitation for they are sure to give good results, still "prevention is better than cure." The diet in roup should be simple. Green food should be within reach at all times and all mashes should have at least one-third of their bulk of clover or alfalfa. Drinking water should be changed twice a day.

* * *

EDITOR'S QUESTION BOX.

Mrs. A. Basley has taken a month's vacation, to visit the Portland exhibition and other points north, therefore after today she will not be able to answer questions in her box until her return.

* * *

Geese.—(Mrs. E. A. P.): I am interested in geese and have very good success, but wish to know if they can be made to lay so the goslings will be ready for market in January, February and March, as they bring a higher price then than later. Can you give me the name of some publication that treats on the subject of geese, both for market and for feathers?

Answer.—The Reliable Poultry Publishing Co. have a book, price 50 cents, which is called "Ducks and Geese." This will, I think, give you all the information you require. You can get it at any good poultry supply house, or you can write to the Secretary of Agriculture at Washington and ask him to send you Farmers' Bulletin No. 64 on "Ducks and Geese." This will be sent to you free in about two weeks after you apply.

* * *

Hoppers.—(Mrs. J. W. B.): I have been reading in the Cultivator the articles on dry feeding for poultry, and would like to ask if you can describe how to make the hopper to feed the dry mixture in. I see the plan of one in the paper, but I guess my head is rather thick, so I don't just understand how it is made and I should like to try that plan of feeding, as I am not able to attend to making mashes, and like the plan of dry feeding. I would like to ask what the dry meat scraps are and where they can be purchased. What do they cost? I have always used the meat, blood and bone meal, but, to feed dry, I should think the meat scraps would be best.

Answer.—I made the hopper or feed box myself out of a cracker box and gave a plan of it in the Cultivator. If you can not make one you can buy a galvanized iron hopper at any poultry supply store and if you want a larger feeder, copy it in wood. Or nail a ten pound lard can against the wall and put the feed in that, only half filling it.

The dry meat scraps are made of beef, which is cooked and all the grease squeezed out of it at the packing houses. It is then dried and ground. Beef scrap can be bought at the poultry supply houses and costs about three and a half dollars a hundred pounds. A hen eats about half an ounce a day. See my reply to Miss P. M. W.

* * *

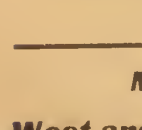
Dry Feeding.—(P. M. W.): Will you kindly state, in the Cultivator, if I can begin the dry feeding with my old hens, or must it be begun with little chicks? How can I feed Calfalfa meal dry? I hardly think the hens or chicks could or would eat it dry. If I can start in dry feeding my young pullets and last year's hens, please give me a balanced ration for dry feeding.

Answer.—You can begin dry feeding at any time, remembering always that any sudden change will for a time affect the egg basket. The change may be made gradually, such as by giving the dry feed at first during the day and a light mash at the usual hours.

I will tell you how I feed, and the proportions—but I really would advise you to write to the director of the Experiment Station, Berkeley, Cal., for the Bulletin No. 164 on poultry feeding. There you will find a number of good recipes.

What I am now feeding in a home-made hopper, or a bucket nailed to the wall, is three parts bran, 2 parts alfalfa meal, one part corn meal. I put these into a bin, mix them together and then take a bucket and fill up the

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.0 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.


30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

Dean's Pacific
Is the best and cheapest incubator that can be bought. 265 size, $20; 145 size, $14. A most practical 100-chick brooder only $4.50.
WM. B. DEAN 2509 Central Ave. Los Angeles, Cal.
When writing advertisers mention Cultivator.

Standard Bred S. C. White Leghorns
EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.
CAPTAIN MITCHELL SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator
When writing advertisers mention Cultivator.

ASK YOUR DEALER FOR IT

Calfalfa Meal

ASK YOUR DEALER OR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings or Oil Cake meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application.

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application.

MILLS
West and Nielsen Aves

California Stock Food Co.
FRESNO, CALIFORNIA

OFFICE
121 FORSYTH BLDG.

hopper. At the same time I keep a hopper full of beef scraps always before the hens, besides grit, shell and charcoal, they have table scraps and all the skim milk I can spare them, and the remnants of vegetables and squashes or pumpkins.

They balance their own rations and lay marvelously. My hens are White Rocks, and until now it has required very careful feeding not to over-feed in some particular direction, as they are apt to lay on fat quickly; with White Leghorns you would not have this difficulty, as they are of a nervous, active temperament, always on the move; they can stand more carbonaceous diet than the American breeds.

The reason I advise you to write for the bulletin on feeding is that you may be able to substitute some grain that you can purchase very cheaply and by finding out through the bulletin the nutritive value of the grains you can make your own balanced ration and use the cheaper grain. The bulletin is furnished free of charge.

* * *

Tuberculosis.—(G. H.): I have some chickens, young and old, that have tuberculosis. Can you tell me what to do?

Send to State University, Berkeley, for Bulletin No. 161, Tuberculosis in Fowls. Meantime separate all well fowls, put them on fresh ground. Isolate the diseased ones—or better, kill and bury deeply. Then thoroughly disinfect and let in sunshine to old quarters.

CLEANING ROOSTS.

The proper way to clean a roost, says Epitomist, is to first carry everything out of doors, roost poles, nest boxes and loose boards. Give them a dose of oil and apply the match. If the wood takes fire it can be put out by throwing sand on it. Now rake out all fowl dirt, and give the inside a good coating of whitewash. Do this once a month. If we do not have time for all this, then get some liquid lice paint and go over the roost poles, nest boxes, etc., with a brush dipped in the paint. Put on a good coat. This should be done just before the fowls go to roost at night. Probably the fowls will not like the smell, but drive them all in and shut the house up tight for an hour or two. This will not only kill the red and gray mites, but all the body lice on the hens as well. In ten days (after the lice eggs previously laid are about all hatched out) repeat the operation, when we may reasonably know that our hens and roosts are freen from lice and will stay so for a month or two.

GAPES.

Gapes are caused by trematode worms in the windpipe and occur usually in young chickens. These worms are from 1-5 to ½ inch long, reddish color, and found attached to the windpipe. The number of worms may be increased until the fowl is completely choked. These worms are frequently removed by means of a wire or horse hair doubled so as to form a loop which is inserted into the windpipe and turned until the worms are all removed. A simple method is to dip a feather in turpentine or kerosene, thrust it into the windpipe and turn until the worms are removed.

Keep little turkeys free from lice. Do not over feed them. Keep coops clean and dry.

ADVERTISE YOUR YARDS.

Do you some day wish to derive enough profit from your poultry to make a very comfortable living? If so you need to get a move on yourself. Don't sit in the shade wating for business to grow. It may be something new to you, your only experience in the line of advertising being derived from inserting an ad in the want or for sale columns of your local newspaper.

As a rule large space pays better than small. But yet if you will toot your tooter every week of the year and year in and year out you will soon have a nice business, notwithstanding that you probably used only one inch of space each issue. But you kept everlastingly at it and there is where you made progress for the "stick-to-a-tiveness" is the main thing in poultry advertising.

If you contemplate taking space and are a beginner, drop the editor a line, place confidence in him and describe to him the full situation and he will take pleasure in giving you personal and reliable advice. Do not think the rates are too high; true enough they may be for the man who expects to advertise one month out of the year, for the regular advertiser has won the confidence of the readers while the occasional advertiser has it to win. Again let me advise you to advertise in fall, winter, spring and summer.

WHY FAILURE.

Compared with failures there are few successes, because—

1st. Lack of adaptability.

2d. Lack of working capital.

3d. Selecting the wrong breed for the purpose intended.

4th. Lack of business understanding.

5th. Neglect of details.

6th. Too many fowls to start with.

7th. Starting with poor stock, which never pays.

8th. Improper feeding.

9th. Lacking energy; too easily discouraged.

10th. Not being rightly fixed for keeping fowls.

11th. Over-crowding; lice, mites.

12th. Neglect to advertise, not one time but all the time. Because no breeder can have any success who does not advertise.

These are some causes of failure, and there are others.

Carbolic acid fumes are good for roup. Shut the fowls up in dry quarters and fumigate by putting a few drops of acid on a hot shovel or pan.

Look out for the mite. Spray the perches, nests and interior of the poultry house with kerosene and lime.

FEEDER FOR YOUNG CHICKENS.

Take woven wire, not chicken wire, about 26 or 30 inches high and 20 feet long, bring the ends together and tie with strong twine. You then have a round feeder complete. The young chickens go in between the wires, while the old ones will walk around seeking a place to creep through but never fly oved. Wire with stiff stays is best to make it of. After the chickens are grown the strings can be cut, wire rolled up nad laid away for another year. I have tried these feeders and know they are good.—Farmer's Guide.

A NEW POULTRY JOURNAL.

Volume one, number one, of the Jubilee Poultry Journal is sent us by the Jubilee Publishing Co., of Sunnyvale, Santa Clara county. It's a beautiful monthly magazine of 28 pages and cover. It is well edited, well printed and a credit to its publishers.

Besides its announcements, it has several articles on Trap Nests, Why Some Poultry Doesn't Pay, Feeding of Poultry, etc.

Strong, healthy fowls are not subject to roup or disease. They can endure the vicissitudes of the weather almost with impunity. They go out in the rain, and do not get roup. They may roost on fences, trees, woodpiles—anywhere; and rain may fall on them, cover them, yet they do not get roupy. In fact, they can stand all kinds of exposure, without the development of even a tendency to roup. Close bred, pampered birds can not do this. Human consumption comes from the pampered, close housed class. The person who is always in the open air in all sorts of weather never contracts consumption. Inbreeding is one of the causes, if not the main cause of lack of constitutional vigor in strains.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.
When writing advertisers mention Cultivator.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.
When writing advertisers mention Cultivator.

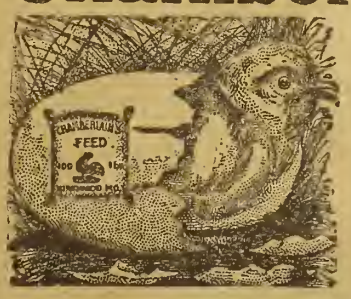
WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.
When writing advertisers mention Cultivator.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.
When writing advertisers mention Cultivator.

EGGS WANTED FOR HATCHING
Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.
YOUNG CHICKENS AND TURKEYS WANTED
We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.
BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations
Don't believe all we say, but just enough to buy our Poultry Foods
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.
When writing advertisers mention Cultivator.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.
When writing advertisers mention Cultivator.

Chamberlain's Perfect Chick Feed


World's Chick Feed of To-Day. The only original Dry Chick Feed. All others are worthless imitations. Chamberlain's Perfect Chick Feed was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

A Visit to the Large Packing Houses in the Eastern Cities

In Three Chapters.==Part II.

BY A. R. COULSON.

ARMOUR PACKING CO., KANSAS CITY.

The Armour Packing Company at Kansas City have about the largest and best equipped slaughter houses and packing plant in the entire world. Everything was built, not only for convenience, but also for cleanliness as well; in fact, it is kept much cleaner than a person would think it possible to be. And, as for machinery, one would be astonished to see the great variety of machinery of various kinds that they have at this institution.

Engines of 1000 horse power, huge furnaces, boilers many feet long, tanks several stories high, besides their own can-making factory, one of the largest in the world, as well as a box factory and other factories.

Another thing unusual for large institutions of this kind; the company here owns all land, not only that which is covered by the buildings they occupy, but also the streets as well: and they have a high stone wall around the whole business, reminding one of the Chinese wall.

It is virtually a city within a city. They have between 6000 and 7000 hands employed here, and therefore are the means of supporting many families, probably aggregating between 20,000 and 25,000 people, many of whom live at Armourdale and surrounding vicinity.

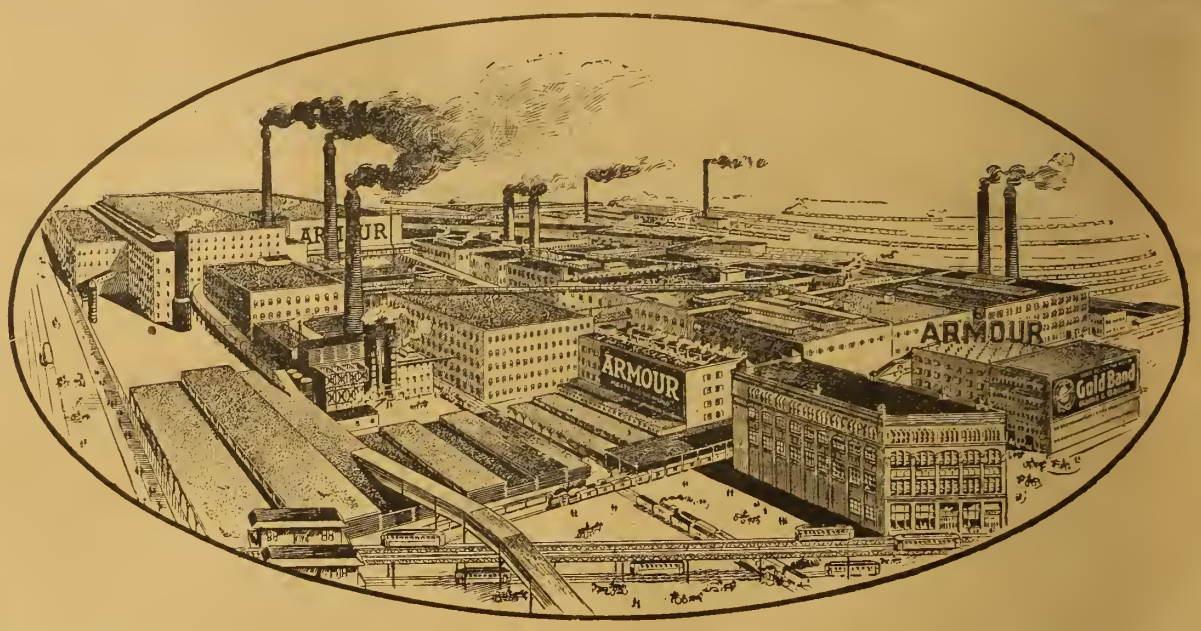
At every entrance and also scattered throughout the yards are numbers of special policemen and no suspicious persons are allowed to enter, unless they give a good account of their business, and then they are closely watched.

The writer went into the main four-story office building and gave his card to one of the attendants that came forward and requested to be taken to Mr. Futvoye, the manager of the animal food department. The writer then followed the attendant through rows and rows of general office men, heads of various departments, clerks, book-keepers, stenographers, telegraph operators, etc., altogether there are nearly 300 of them, keeping account and carrying on business with all parts of the world.

Mr. Futvoye took the writer all through the various departments, and also into the basement of the office building, showing the machinery and appliances used for washing the air and circulating it through the building. The air is sucked in from above the roof and it comes down through a passage-way in the basement where it passes through a room where the water pours down like rain and washes all the particles of dust and germs from the air. The water afterwards looks very muddy, showing how much dirt there is in the air. The clear pure air then rushes on and passes through a sort of electrical or drying machine, and from there it is fanned up into the different office rooms. The office windows are never opened, hence no dust; the pure air goes in one place and the impure air is sucked out at another.

We then walked from the great office building in the State of Kansas over into where the killing was going on in the State of Missouri. This building is hundreds of feet wide and many hundreds of feet long. The cattle killing is done in one part, and the hogs in another department, and the sheep in another.

A couple of carloads of young, fat long horned steers came in at that moment, and they were run in through long, narrow alleyways, just wide enough for two; and a trap door was let down between them, about every eight feet apart, leaving two steers in each department. They were made to jump around until one faced one way and one the other. Between these two long rows of cattle in boxes, was a space of about four feet wide, where the men who did the killing, walked along. Two men with sledge hammers, one at one end of the row and one at the other, did the killing—they would lift up their hammer above the head and give the steer one whack on the forehead and down it went. Then he would give the other one a whack, and then he touched a button,



Plant of the Armour Packing Company at Kansas City. It is a city within a city. Here they employ between 6000 and 7000 people and they kill from 6000 to 10,000 animals a day. The hearts and livers from these animals are cooked and baked and made into meat meal and this is shipped in carload lots to the Coulson Poultry and Stock Food Company who use it in making Coulson's Egg Food and COULSON'S SPECIAL CHICK FOOD.

Unloading hogs from stock cars and driving them into the slaughter house at Armour Packing Company's.

Skinning and dressing beef at Armour's. The hearts and livers are kept out by themselves and are cooked and baked and used in mixing Coulson's Special Chick Feed.

and the two animals would slide down through a trap door to another department, where men would hook them on to a big chain by the hind leg and off they would go.

The first thing that was done—they were cut in the breast and the blood was drawn off in buckets, and then emptied into big cooking tanks, where it cooked for a few minutes until it thickens, then it goes into a revolving heated cylinder, and in ten minutes it is made into dried blood. Then it is put up in 100 lb. sacks and every few days a carload is shipped to Coulson Poultry & Stock Food Co., at Petaluma, Cal., and is used by them in making Coulson's Balanced Rations for poultry and stock.

The next minute the animal slides along another ten feet and the hide is taken off; and in another minute, it is in the dressing department, and ten minutes later it is hanging up in halves in the refrigerator department. In this length of time it has probably been handled by no less than one hundred people, as each has one particular thing to do.

The hearts and livers and kidneys are put into one big pile by themselves. These are then put on to big steel pans about fifteen feet square and these pans are put into big ovens, where they are piled in layers, or drawer-like, and fit one on top of the other into furnaces about twenty-five feet high. They are first roasted to a crisp, and are then taken out and allowed to cool until the next day. Then they are put through another process of baking or drying, by means of a heated cylinder, or long boiler with a big screw running through the center, which keeps stirring them up, and in another hour they come out at the other end, converted into meal, (Baked Hearts and Liver Meal.)

This product is then put up in 100 pound bags and 400 sacks (or 40,000 pounds) are put in a refrigerator car and shipped to the Coulson Poultry & Stock Food Co., at Petaluma, Cal., who use it in making Coulson's Egg Food, and Coulson's Special Chick Feed.

As space is limited the writer cannot go into all the details of what is to be seen in one of these big packing houses, as it would fill a book; but will conclude by mentioning the fact that the Armour Co., at this plant, kill as high as 3500 cattle, 4000 hogs and several thousand sheep in a single day.

On a big black-board in the office building each day are marked the receipts at the stockyards, which reads about like this:

Cattle receipts	12,320.
Hog receipts	14,280.
Sheep receipts	8,000.
Poultry receipts	12 cars.

The Coulson Company not only take all the products of Hearts and Livers Meal from this plant but also from Omaha, Chicago and St. Louis plants as well, and in short while the Coulson Company has paid the Armour Co., more than $50,000 for Hearts and Liver Meal and Dried Blood.

It is safe to say that the Coulson Company's sales of Coulson's Egg Food and Coulson's Special Dry Chick Food has been nearly 400 full carloads during the last fifteen months for the Pacific Coast, and they are soon to establish a branch factory at Omaha to supply the Middle West States.

If you have any poultry at all, you should feed them Coulson's Foods: Coulson's Egg Food for the pullets and hens, and Coulson's Special Chick Food for little chicks. But be sure to insist upon getting Coulson's for there are many imitations which will be offered cheaper, but they do not contain the good ingredients like Coulson's.

So remember—INSIST UPON HAVING COULSON'S.

Ask your dealer for Coulson's.

Photograph of a pile of about 25,000 baked and dried Hearts and Livers. These are to go through one more process of baking, which will thoroughly dry them, so that the meal will keep, without spoiling. This Hearts and Liver Meal is very tender, sweet and nice; it is easily digested and is great stuff to make chicks grow. It is used for making Coulson's Special Chick Feed.

A story about substitution, which is really the same thing as stealing.

SUBSTITUTION.

A copper cent shined up looks like a $5.00 gold piece to a person who is ignorant of the difference in the value of the two coins. He might wish to purchase one and he may have heard or been told that the gold was best, and he may ask for the gold. But the dishonest merchant will say: "Here is something just as good and it is cheaper, and you can have it for $4.00 and the other one costs $5.00.

And the customer looks at the two coins; the copper cent shined up looks to him as good as the $5.00 gold piece, and he thinks he has struck a bargain. So he pays $4.00 for a copper cent, thus paying the merchant 400 times as much as it is worth, while if he had paid $1.00 more, and got the $5.00 gold piece, he would have the worth of his money.

The moral of this story is, if you start out to buy a certain article, don't let the merchant do you, by selling you a substitute which is chaper.

If you want to buy Coulson's Egg Food, or Coulson's Chick Foods, insist upon having Coulson's and give them to understand that you know your own mind, and that you don't intend to be cheated by accepting any Substitutes.

Send for Free Catalogue and Poultry Book

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

OUR COLORS.

Red! 'tis the hue of battle,
The pledge of victory;
In sunset light, in northern night,
It flashes brave and free.
"Then paint with red thy banner,"
Quoth Freedom to the Land,
"And when thy sons go forth to war,
This sign be in their hand!"

White! 'tis a sign of purity,
Of everlasting truth;
The snowy robe of childhood,
The stainless mail of youth.
Then paint with white the banner,
And, pure as northern snow,
May these, thy stately children,
In truth and honor go.

Blue! 'tis the tint of heaven,
The morning's gold-shot arch,
The burning deep of noontide,
The stars' unending march.
Then paint with blue thy banner,
And bid thy children raise
At daybreak, noon and eventide,
Their hymn of love and praise.

Valor and truth and righteousness
In three-fold strength today,
Raise high the flag triumphant,
The banner glad and gay.
"And keep thou well thy colors,"
Quoth Freedom to the Land,
"And 'gainst a world of evil
Thy sons and thou will stand."

—Laura E. Richards.

Sweet Waters.

It was four o'clock in the morning, and the birds were already singing in the trees. The summer sun would soon be visible and the conglomeration of ashes, water, charred wood and burnt clothing would be gazed upon still more plainly by John Melvin and his family—all that was left of that which a few hours before had been their home.

Some of the neighboring farmers still stood around in sympathy.

"Well, John, it ain't as bad as if you didn't have any insurance. You know Dan Howell lost every penny when his barn burned."

"Oh, I know," was the answer, "but I could only afford to carry five hundred dollars, and you can see what this loss is—double that."

"I know—it's mighty bad. You'd better bring Mrs. Melvin and the two youngsters on over with me and get some breakfast; my wife'll be too glad to do something."

But Mrs. Melvin herself answered this offer.

"Thank you, Dick. Tell your wife I know how good she is, but Esther and I must get things in some kind of shape here, if that is possible," she added hopelessly, as she viewed the desolation before her and tried to speak without sobbing.

"Well, goodbye to you; let us help you in any way we can," and he, with one or two others, started across the fields.

"Here, father, I know we can arrange things so we can live on the farm until we can do better," Ralph said, trying his best to speak cheerfully. He was eighteen, even if Dick Jennings did call him a youngster.

Esther, who was two years younger, was saying to her mother, "Mamma, that chest of bedding was saved and most of the furniture. Will papa see about building a new house right away?"

"Oh, dear, I suppose so—as soon as he can. We can't do much with $500. It we had not saved the barn, we would have been dependent on the neighbors for shelter."

John went up to his wife, and, placing his hand on her shoulder, said, brokenly: "I don't seem to know what to do first, Carrie; I wonder if we could eat any breakfast if we had it?"

"Yes, dear, we could. You and Ralph get the cook stove set up and I'll try to find some coffee. Esther, get poor old Brownie out there and milk her. Before long we will have something to eat and then we will set to work."

She turned away, so they would not see that she was crying again.

In the course of an hour breakfast was laid in the only clean, cool spot near enough for the purpose. This was down by the spring house, where Esther had carried the large bucket of fresh milk, and was straining it into pans to cool. The almost ice-cold water bubbled up and rendered the atmosphere of the place like that of an immense refrigerator.

"Thank heaven, mamma, the spring couldn't burn!" exclaimed the girl, as she sat down on the grass beside her mother.

"Yes, that spring is one of the comforts left to us, I have been thankful for it a thousand times."

"What a funny breakfast!" said Ralph, as he helped himself to boiled roasting ears and boiled potatoes, but no bread. "It's a good thing we've got butter!"

"If we can get the stove to draw, I'll get some biscuits made some time today," said his mother. "John, dear, is the coffee all right?"

"Oh, yes. If it were not for the nasty burnt smell in the air, we could shut our eyes and imagine we were at a picnic," said John, bravely.

"Say, sis, I've always wanted to go camping—haven't you?" said Ralph, an ear of corn in one hand and his spoon in the other. "Where's the sugar?"

"Boiled into taffy and then burnt up, I suppose," answered Mrs. Melvin, grimly. "I wish I knew how we were going to get any more," she added.

"If we only had something to sell," sighed the father. "It will be weeks and weeks before the wheat or corn will be ready for the market. Mother, you will have to do your best with the butter, and what few chickens we have."

"What will you do for a while, my poor dears?" he thought in deep anguish, as he realized all the discomforts with which they would be surrounded until the new home could be made ready. But aloud he said to Ralph. "Now, my boy, we'll throw everything that we can possibly spare out of the barn and get the beds ready for night. God be thanked that it is summer time instead of winter."

But the hot August sun soon beamed down upon the unfortunate ones as they worked with a will to reduce the chaos.

The farm was situated too far from Chicago for the city fire department to be of any service to the Melvins in their need. But the $500 insurance would be like a small fortune to the now homeless family.

A neighboring farmer notified the company of Mr. Melvin's loss, and on the following day a couple of strangers drove through the lane.

Giving his lines a twist around the whip stock, the elder man descended and handed a card to Melvin, on which he read: "Parker Blackleigh, Protective Insurange Company."

"Glad to see you, Mr. Blackleigh. You can see how I am fixed here." And John waved his hand toward the black, foul-smelling debris.

Then turning to the other gentleman, who still remained seated in the buggy, he said. "Won't you get out, too, sir? You'll enjoy your ride all the more for stretching your legs a little."

"Thank you," was the answer, as a handsome young man of twenty or thereabout stepped to the ground.

"My nephew, Mr. Arthur Schuleman, Mr. Melvin," said Mr. Blackleigh. "Now let us get at this thing," he continued, 'but first first may I trouble you for a glass of water?"

They had been making their way over to the springhouse, near which were placed some chairs, and where Mrs. Melvin and Esther were working their butter.

"My wife and daughter, Mr. Blackleigh, and Mr. Schuleman. Esther, will you get these gentlemen a glass of water?"

Mr. Blackleigh smiled as he received the glass from the young girl's hand, but after he drank the delicious, cool spring water he said heartily, "Oh, my! but that's fine! A spring of water like that in Chicago would be worth a fortune. How I wish I could have a bottle of it on our table every day!"

Esther, pleased, handed him another glass of the precious spring water, which he took and drank with as much relish and appreciation as before, then said:

"Why don't you sell that water, young lady? Why," turning to Mr. Melvin, "you could in time make more than your insurance policy. You could indeed. Don't you say so, Arthur?"

That young man had taken the glass from Esther, thinking that he had never in his life seen a sweeter face. The sparkle of the water was brilliant, but not so attractive as the sparkling eyes of the young girl. Recovering himself from a moment's reverie, he smiled at his uncle's enthusiasm, but his face grew grave as his experienced taste detected the value of the water which had just satisfied his thirst. 'I am inclined to think it will prove valuable to you, Mr. Melvin," was his serious answer. "If you do not mind, I will take a sample of it with me to the city, and I hope to be able to give you a favorable report very soon."

"Mr. Schuleman is a chemist," explained Mr. Blackleigh to the astonished farmer. "But come, let us settle the question of this insurance. There'll be more of this later."

As the two men turned away, Mr. Schuleman turned to Esther and her mother, who had been attentive listeners, and said:

"Now, Miss Melvin, if you will procure a bottle, we will fill it with some of this delightful beverage, and I will

NORMAL SCHOOL
IN
FRESNO

If you want the ***Best Normal Training*** in the shortest possible time, or if you want a special course, literary or scientific, get it at Chesnutwood's in Fresno.

Teachers Prepared for Grammar Grade Certificates

The best training in Bookkeeping, Penmanship, Shorthand and Typewriting.

WRITE FOR PROSPECTUS.

Chesnutwood's
Business College
at Fresno, or Santa Cruz, California

When writing advertisers mention Cultivator.

HELP!
Settle Your Own Country

The

Santa Fe

is doing its share in trying to send more farmers to your country. You can help that work by a little effort.

Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered.

Send list this week to

WILLIAM NICHOLSON,
General Colonization Agent, A.T.& S.F.Ry
Railway Exchange, Chicago

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

have it analyzed as soon as I return to Chicago. My father is an expert, and I follow in his footsteps as nearly as I can."

Shy little Esther blushed as she gave him the required receptacle, but they were soon conversing easily and were rapidly becoming acquainted, while Mrs. Melvin asked eager questions and received encouraging replies. In a short time the two strangers bade goodby to the Melvins, and needless to say, left the family highly encouraged as to the future.

Esther ran to tell the interesting news to Ralph. He at once said: "I know; I have read of the bottling works at the mineral springs in Colorado. But that water is used for medical purposes, and tastes horribly. I suppose the kind that comes from Germany is just as bad. Come, let's go and see what father thinks of the scheme."

Mrs. Melvin had placed her crock of half-worked butter in the trough inside the springhouse and was saying to her husband in anxious tones: "Oh, John, about how much would the water be worth? And how could we manage it? Wouldn't it be as warm and tasteless as rain water by the time we could haul it seventeen miles or more in the hot sun?"

"Why, yes; of course it would," said John, answering the last question first. "But you see, people in the city who would buy it keep ice, and they would only need to place the bottles which we would deliver to them in the refrigerator and in an hour or two the water would be as deliciously cold as ever."

"Just think," said Esther, "how many bottles we would require?"

"Why, Esther, not so many as you would at first think. We would do like the milk venders, arrange for our customers to give us back the bottles to be used the next time," said Ralph.

"Papa," said Esther, "I am just dying to begin! When may we?"

"I think," was the answer, "we'd better wait for Mr. Schuleman's report. I am to meet him at his father's office the day after tomorrow, when I go to the city to get this check cashed. If the water in that spring proves to be as valuable as those two men seem to think, we certainly have a fortune in it. Why, a company could be formed and a fine sanatorium built instead of the modest story and a half dwelling upon which we had planned."

'Just think, dear," said Mrs. Melvin, "how even that fire which destroyed our home may prove the greatest blessing which the good Lord could have sent us!"

"It may be so, it may be so," was the answer.

Needless to say the whole family anxiously awaited the return of Mr. Melvin from the city on the next day but one following the agent's visit to the farm.

"Well, father, what's the news?" asked Ralph, who met his father at the farm gate.

"Pretty good, my boy; pretty good!" answered his father, full of enthusiasm. "They say it's no wonder we have never had any sickness of any kind, and that our complexions are so clear, as our spring is a fine health preserver. I have purchased two hundred half-gallon bottles for ten dollars of the insurance money. You and Esther may wash and fill half of them leaving the remainder to be filled and taken on the second journey, when you collect the first ones after the manner of the milkman."

They were up early on Thursday morning, just one week after the fire.

"Now, Esther, we said we would start promptly at four o'clock," said Ralph, with all a boy's impatience, as he placed the last four bottles in the wagon, each one being carefully protected from the other by strips of bed quilts which had been damaged the week before.

Esther had lingered just a little to give her hair a few extra touches, and then the ribbon around her neck had to be arranged and rearranged before it suited her fastidious taste, for she was very neat and careful, this sixteen-year-old country girl, and she turned her face away from the glass that she might not see her own blushes as she remembered Arthur Schuleman's friendliness toward her. But this morning her bed had been one corner of the hay loft, and her dressing table a big corn box turned over on its side, so she was compelled to do the best she could.

But they were finally started.

"God bless their dear hearts," said John to his wife. "Carrie, we have two of the dearest children in the world."

She smiled and cried both at once as she said to herself, "Yes, Esther will be getting married before long and going away from us, my dear little girl!"

"We'll go first to Mr. Blackleigh's, on Wabash avenue," said Esther. "You know he told father if we were there by eight o'clock he'd not be gone to his office."

It was almost half an hour before eight o'clock when Esther rang the door bell at the number given her by their new friend. She felt her courage slipping away, but was reassured by seeing the gentlman himself appear at the door.

"Good morning, Miss Melvin. Come right in. You don't ever tell me you have driven all the way from the farm this early? Jane, tell Mrs. Blackleigh to come here."

Before many minutes Esther, quite at ease, was writing several names and addresses in the book with which she had been supplied for the purpose.

The Blackleighs took three bottles, for which they paid her thirty cents, and promised to be regular customers for a like amount every day through the summer, and told them of many of their friends who would do as well.

"Just say to your father that Mr. Schuleman and I will soon drive out to see him in regard to a business proposition which will be sure to interest him." Mr. Blackleigh was saying to Ralph as Esther passed down the steps and was assisted by her brother to her seat in the spring wagon.

It was a long, tiresome, but most successful day; and that night two happier young people than Ralph and Esther would have been hard to find.

But the water sending proved to be of short duration, for the Melvin sanitarium turned out to be a reality. The old spring, with its sweet waters brought a fortune to its projectors. Two young people whose names need not be mentioned, are in control of the institution, and have entered into a partnership for life.—American Farmer.

Nordy—Did that summer resort have all the comforts of home?

Butts—Not quite; but it made up for that in another direction.

Nordy—How's that?

Butts—It had all the discomforts.—Louisville Courier-Journal.

Cookery Recipes

Corn-Fritters.—To one pint of green corn scraped from the cob add one large tablespoonful of butter, one teaspoonful of salt and one of black pepper, one egg well beaten with one half pint of milk, and flour enough to make a thin batter. Bake on a hot griddle until a light brown, and serve very hot.

* * *

Cauliflower With White Sauce.—Carefully wash your cauliflowers, and boil them until tender in water with salt and one tablespoonful of butter. When done, lay them in a dish, and arrange the leaves in such a manner as will give them the appearance of one large cauliflower. Pour over them a white sauce, made as follows: Rub one-fourth of a pound of fresh butter with one tablespoonful of flour, a little salt and pepper and one small cupful of warm water. Set it over the fire until it is well mixed, but do not let it boil. Remove from the fire, and add the juice of a lemon, a little chopped parsley and a little grated nutmeg. If a thick sauce is preferred, add the beaten yolk of an egg.—Woman's Home Companion.

* * *

Fritters.—One pint of thick stewed tomatoes, half a cupful of sweet milk, two well-beaten eggs, half a teaspoonful each of salt and baking powder, and sufficient fine stale bread crumbs to make a rather thick batter. Mix thoroughly, and drop in spoonfuls on a hot buttered griddle. Brown delicately on both sides and serve hot. These are very nice served with syrup, or if seasoned with salt and pepper are also excellent served with meats.

* * *

Digestible Onions.—Cut onions in thin slices and cook in plenty of water until tender. Then drain and return to the fire with ½ cup water, salt to taste, ¼ cup vinegar and 1 tablespoon sugar. Let all cook together 5 minutes, then drain again and serve. Onions cooked in this way are extremely digestible and are enjoyed by those who find their after effects objectionable in any other form.

* * *

Walnut Sandwiches.—Chop one cup of English walnuts fine; scatter over them a little salt, then mix with sufficient cream cheese to make a paste. Butter thin slices of whole wheat bread, spread with the mixture and cover with another slice of the bread. Cut in fancy shapes and keep covered till wanted.

HOMELY HINTS.

One often hears complaints that the wash-house boiler rusts and iron molds the cloths. This may be easily prevented by rubbing the boiler directly it is emptied and while still warm, with any good household soap. Give it a good coating of soap, for the soap will not only prevent rust, but will help to make the suds when the boiler is filled for the next washing day. When damping clothes use hot water. It damps the clothes more evenly than cold.

A cement made by adding a teaspoonful of glycerine to a gill of glue is a great convenience in the kitchen and is especially good for fastening leather, paper or wood to metal.

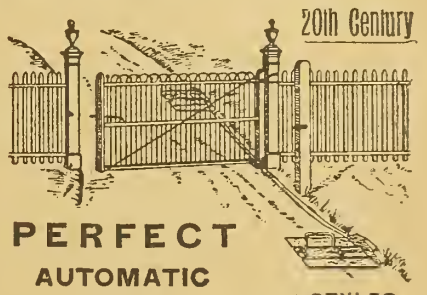
The cleaning of greasy pots and pans won't be near such a disagreeable job if you will first stir around in them a handful of corn meal to absorb the grease.

Always keep the broom standing "business end up" or hanging up. It will last twice as long.

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trade-marks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phones 347
When writing advertisers mention Cultivator.

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

ABOUT ANTS
Don't let your dealer palm off some "just as good" article on you. K. A. P. effectively drives away ants.
Sent prepaid, by express, only, 40 cents.
KELLOGG'S ANT PASTE CO.
1010 E. NINTH ST., LOS ANGELES, CAL.
When writing advertisers mention Cultivator.



PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. Works 365 days each year. NO OILING—ten minutes each year and 10 to 20 cents expense—no more.
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California.

Oh! What A Difference
IN THE MORNING
Especially wash day morning when you use a
WHITE LILY WASHER
JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY
WHITE LILY WASHER CO.
1539 Rockingham Rd, Davenport, Iowa
When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.
When writing advertisers mention Cultivator.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

GARGET.

Editor Cultivator: I have a cow that has been giving bloody milk out of one front teat for about ten days. It gathers between milkings and forms hard lumps of blood in the lower end. It does not appear to be sore, and there seems to be no inflammation.—Mrs. J., Bakersfield.

If there is no inflammation the principal treatment will be to keep the affected teat well milked out. If not possible to do so by hand, use the milking tube. The cow may also be given a tablespoon of nitrate of potash once each day for four days.

TO GROW POTATOES FOR SEED.

The potato seed is very much like the tomato in character, and in fact, is a very close relative of the latter botanically. The seed should be removed from the pods and washed to remove as much of the fleshy tissue as possible, then dried exactly as you would tomato seed, and stored until next spring. The young plants are quite delicate, and it is advisable to sow the seed in a window box as you would early tomatoes, and then transplant them to the garden later. It requires about three years to grow a good sized tuber from seed. From a commercial standpoint it is impractical, of course, to grow them in this way, though it is very interesting work for the amateur, as by this method one frequently secures something different, and there is a possibility of its being a new variety that will prove superior to the old sorts.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125.00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
— ARE RELIABLE —
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

Los Angeles Markets.

Los Angeles, September 27, 1905.

Butter.

Butter took its promised rise Saturday and is now quoted at 60 cents for B. of T. and fancy Valley.

B. of T. Creamery, per roll 60
Valley Creamery, fancy 60
Coast Creamery 55
Fancy Dairy .....47½@50
Cooking, per lb 25

Cheese.

Cheese remains at same quotations.

Cal. 3-lb. hand 16¼
Cal. Young America 15¼
California Anchor 14¼
Northern .....12½@13
Eastern 16
Domestic Swiss 16½
Imported do 27½

Eggs.

Eggs are one to two cents higher than last week:

Eggs, fresh ranch, ...32@34
Eastern and Storage .....28@30
Seconds 23

Poultry.

Fryers, 2½ lbs 1b
Broilers, under 2 lbs, per lb 15
Young Roosters, per lb 15
Hens, per lb .....13@14
Ducks, per lb 11
Turkeys, per lb .....18@20
Geese 11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt ....$5.50@3.50
Prime Steers, cwt 3.50
Cows, cwt 2.85
Calves, cwt 4.50
Sheep, ewes, per head 3.50
Lambs, do 3.25
Wethers, per head 4.00

Potatoes.

Northern, per ctl .....1.00@1.20
Locals, per ctl .....75@1.30
Sweets, white, per cwt .....1.00@1.25
Sweets, yellow, ...1.00@1.50

Vegetables.

Onions, yellow, per cental ...75@1.00
Onions, Silver Skins, sks .....50@75
Beets, per 100 lbs 75
Cabbage, per sack 50
Parsnips, per sack .....60@65
Bell Peppers .....3@4
Cucumbers, per box .....35@50
String Beans .....2@4
Wax Beans .....2@3
Green onions, doz bunches ....25@30
Carrots, doz. bunches .....25@30
Turnips, doz. bunches .....25@35
Garlic 20
Celery, dozen .....30@40
Peas, per lb .....3½@4
Egg Plant .....3½@4
Chili Peppers, green .....1½@2
Chili Peppers, dry 1b
Tomatoes, local .....25@40
Asparagus .....8½@10
Parsley, per doz bunches.....30@40
Summer Squash, bx 20 lbs ....15@35
Green Corn, per sack .....50@75
Lima Beans .....2@2½
Rhubarb 2½

Citrus Fruits.

Valencias.....$2.00@3.00
Lemons, standard .....2.00@2.50
Lemons, fancy .....5.00@6.00
Grapefruit .....1.00@1.50
Grapefruit, seedless 2.00

Fresh Fruits.

Apples, 4-tier Bellefleur ....85@1.20
Apples, 4½-tier Bellefleur ..85@1.00
Apples, 4½-tier Rhode Is. Grn 75@1.00
Strawberries .....4@6
Blackberries .....7@8
Logan Berries .....6@7
Pomegranates, per crate ....90@1.00
Peaches, per box ..... 75c@$1.00
Plums .....75c@$1.00
Damson Plums .....1@1.25
Figs, per box .....25@50
Black Figs .....50@75
Muscats .....60@80
Tokays .....1.00@1.25
Cornichons, lb .....5@6
Concord, lb .....4@5
Pears, Winter Nellis, bx 1.00
Muskmelons, large crates ..1.25@1.75
Watermelons, doz .....35@1.25
Guavas, per lb 4

DRIED FRUIT.

Dried fruit quotations stand as last week, with market still firmer and very scarce supply.

Prunes are quoted at 4 cents for Santa Claras, bag basis; other sections ¼c less.

Peaches: ch, 9; ex c, 9½@9¾; fy 10½@11½.

Apricots: st, 7@7¼, ch, 7½, ex c, 8, fy, 9@11.

Beans, Dried.

Limas 4.50
Pinks, fancy .....3.65@3.75
Pinks, rain damaged .....2.50@3.00
Lady Washington .....2.75@2.85
Small Whites .....3.15@3.35
Black Eyes .....2.50@2.75

Nuts.

The Allied Associations of Walnut Growers met in Los Angeles last Saturday and fixed on prices for the coming crop. The price is generally regarded as one which will prevail through the season.

Walnuts, No. 1 soft shells 15
Do, No. 2 9
Do, No. 1 hard shells 12½
Do, No. 2 hardshells 8½
Almonds, paper shell .....18@20
Almonds, soft shell .....18@20
Peanuts, California .....5@6
Peanuts, Eastern .....7½@9

Honey

Honey, comb, frames .....10@15
White strained, per lb .....5@5½
Amber .....4@5
Beeswax .....23@25

Hay.

Barley, new .....8@12
Alfalfa, local new .....$10@11.50
Alfalfa, no thorn .....10@11.50
Wheat, new .....10.00@11.00
Tame Oat, new .....$11.00@12.00

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat .....1.35@1.40
Barley .....$1.00@1.02½
Corn .....1.25@1.35

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran $1.30
Feed Corn Meal $1.55
Middlings 1.40
Wheat .....$1.65@1.70
Cracked Corn $1.50
Corn $1.45
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

San Francisco, September 27, 1905.

Dairy.

While butter has advanced a cent or more a pound, the demand at present is very quiet and there is not much life in the market; most operators are pursuing a hand to mouth policy in placing orders. As a rule, the better offerings command top quotations, but the lower grades are often shaded.

BUTTER—Per lb:

Creamery, fancy .....27 @28
Do, good to choice .....25 @26
Dairy, choice .....23 @25
California Storage .....23 @25
Eastern Creamery .....22½@24
Eastern ladle .....20 @21

CHEESE—Per lb:

California Creamery, mild, new, extra .....13 @14
Do, choice .....11 @12
Young America .....13 @14
Eastern .....15 @17

Eggs.

Strictly fancy ranch eggs are very scarce and quickly picked up at top quotations. There has been a very strong advance during the week. Notwithstanding this, the greater number of buyers show a preference for storage grades, which command full quotations.

EGGS—Per doz:

Ranch, good to fancy ....36 @39
Ranch, selected large .....40 @41
California storage ..... 25 @28
Eastern, extra 26
Eastern, firsts .....23 @25
Eastern, seconds .....20 @21

Poultry.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $5.50@6, Fryers, $3.50@4.50; Broilers, $3@4; Hens, small, $4.50@5; large, $6@7; Live Turkeys, per lb., 21@23c; Spring Turkeys, 24@25c; Ducks, old, $4.50@$5.50; young, $4.50@6; Geese, per pair, $2; Goslings, $2.25@2.50; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $2@2.25.

Fresh Fruits.

Apples—Per box, fancy, 90c@$1.35; common to choice, 40@75c.

Figs—Per box, Black, 50c@$1, as to size of package; White, 35@50c.

Pears—Per box, Bartlett, 75c@$1.75; other varieties, per box, 35@75c.

Peaches—Per small box, 65c@$1; carrier, 60@75c.

Table Grapes—Per box or crate: Seedless, 75@90c; Muscats, 50@85c; Cornichon, 75@90c; Blacks, 35@60c; Tokays, 65@85c; Isabellas, 75c@$1; open boxes, 75c@$1.25, as to variety.

Wine Grapes—Per ton, Zinfandel, $25@30; Mission, $20@24; White, $18@22.

Prunes—Per box or crate, 75c@$1.25.

Pomegranates—Per box, 75c@1.50.

Plums—Per box or crate, 40c@$1; open boxes, 75c@$1.25.

Quinces—Per box, 50@60c.

Cantaloupes—Per crate, $1.25@2; Watermelons, per doz., $1.50@3; Nutmeg Melons, per box, 50c@$1.

Blackberries—Per chest, $2.50@$3.50.

Raspberries—Per chest, $4.50@7.00.

Strawberries—Per chest, Longworths, $4.50@6; large varieties, $3.50@5; Santa Clara, $4.50@6.

Cranberries—Oregon, per box, $3@$3.25.

Citrus Fruits.

Citrus Fruits—Per box: Oranges, Valencias, $3@4.50; Lemons, $2@4.50; Limes, $5@5.50; Grape Fruit, per box, $1.75@2.75.

Vegetables.

VEGETABLES—Tomatoes, per box, 25@65c; Green Peppers, per box, Chile 25@50c; do, Bell, 25@50c; Okra, per box, 35@50c; Beans, per lb. green 2@2½c; do, Wax, 3@4c; Lima, 1½@2½c; Garden Peas, per lb., 3@4c; Cucumbers, per box, 35@50c; Summer Squash, per box, 35@50c; Egg Plant, per box, 35@50c; Garlic, per lb., 5@5½c; Green Corn, per sk, 50@$1, per crate, 75c@$1.25; Marrowfat Squash, per ton, $15@20.

POTATOES—Per ctl: River Burbanks, 50@70c; Salinas Burbanks, 75c

@$1.15; Early Rose, nominal; Garnet Chile, nominal; Sweet Potatoes, Merced, $1.40@1.55.

ONIONS—Per sk, Yellow, 60@75c.

Dried Fruits.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Prices per lb, f o b Fresno, are as follows: Bleached Thompsons, Seedless, extra fancy, 10½c; fancy, 9c; choice, 8c; standard, 7c; Bleached Sultanas, fancy, 7c; choice, 6c; standard, 5½c. Prices are for 50-lb cases, f. o. b. disccunt of 1½ per cent for cash.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Hops.

The price of desirable old crop is nominal at 12@14c per lb., according to quality.

Beans and Seeds.

Arrivals of beans are steadily increasing and the market continues in an unsettled state, with buyers generally holding off in anticipation of lower prices. The quoted rates are largely nominal and little business of importance is passing at present.

BEANS—Prices per ctl. for choice selections of new crop stock: Large White, $2.25@2.60; small, do, $3.25@3.50; Pea. nominal; Limas, spot, $4@$4.25; October delivery, $3.25@3.75; Red, nominal; Pink, $2.15@2.50; Bayos, $3.10@3.50; Blackeyes, $3.50@4; Red Kidneys, $3.25@3.75; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $2@$2.25; Green $2.25@2.50; Field, $1.75@2.25.

Live Stock.

CATTLE—No. 1 Steers, 6½@6¾c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5½c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c, Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3¾@4¼c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $10@14.50; Wheat and Oat, $10@13; Oat, $6.50@12; Barley, $8@11; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $23@24.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26.50@29.50.

GROUND BARLEY—Per ton, $22.50@23.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

Flour and Cereals.

FLOUR—Net cash, Family, Extra, $4.80@5.10 per bbl; Baker's Extra $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice No. 1 Feed, $1.03¾@1.07½; some fancy grades up to $1.08¾; common to fair, $1@1.02½; inferior grades, 90@97½c; Shipping and Brewing, $1.10@1.12½; Chevalier, $1.10@1.20.

OATS—Good to choice White, $1.37½@1.45; Red, $1.35@1.45 for choice to fancy; $1.15@1.32½ for common to fair; Black, for seed, $1.50@$1.65.

RYE—Good to choice, per ctl., nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.42½@$1.45; small do, $1.60@1.65; White $1.40@1.42½; Eastern, Yellow, $1.42½@1.45; White, $1.42½@1.45; mixed, $1.40@1.42½.

CITRUS MARKETS

There is but little interest in the orange market during the last week and the offerings are very light, and quality is indifferent. There is enough demand, however, that occasional cars of fancy stock command reasonably large figures, but the higher offerings now seldom reach above $5 to $5.50, while the average is more liable to remain in the neighborhood of $4.

Lemons likewise show less interest than formerly though good prices are secured, compared with those of former years. The $7 and $8 prices reached a few weeks ago are now not touched at all, the range being generally between $4 and $5.

New York.

Only a car of oranges was offered at Tuesday's sale, the highest price being secured for fancy Mountain Valencias at $525. Two cars of lemons were sold, commanding from $3.50 to $5.

Quotations: Mountain, fy, Nordhoff, $5.05; Mountain, ch, Nordhoff, $4.30.

Lemons—Quail, xc, O K F Ex, Upland, $4.70; Coyote, ch, OKF Ex, Upland, $4.05; Fox, xc, OKF Ex, Upland, $4.30.

On Wednesday four cars of Valencias were offered, being mostly good stock and commanded, if anything, rather higer prices than the former day. This, notwithstanding quite liberal offerings of Jamaica fruit, which does, not, however, compete with California stock, being picked up for the cheap peddlers' trade.

There were two cars of lemons offered, selling quickly for $3 to $6, some extra fancy Rialto fruit commanding the latter figure.

Valencias, Old Mission, fy, Chapman, $4.25; Purity, xf, Orange, $5.70; Bridal Wreath, fy, Wilson, Orange, $5.25; Ruby, fy, Spruance Upland, $4.65; Seal of California, st, Spruance, Upland, $3.00.

Lemons—Ocean, xf, Rialto, $5.60; Fountain, fy, Rialto, $4.75; Crocker-Sperry, ch, Montecito, $3.80.

Boston.

No oranges whatever offered on Monday, but two cars of lemons met with strong demand and good prices. The range was from $2.80 to $5.90 per box.

One car each of Valencias and lemons were offered on Wednesday. Market was exceptionally strong on lemons and oranges showed an advance over previous offerings.

Lemons ranged from $4.30 to $5.55 and Valencias from $2.90 to $4.95.

CITRUS SHIPMENTS.

Total shipments of citrus fruits, since November 1st, 1904, were 29,555 of which 4212 were lemons.

CLIMATE AND CROP REPORT

The weather and crop conditions for the week ending September 25 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—The weather continued generally clear and warm most of the week, with high temperature on the 21st and 22d and cooler weather at the close. Light showers fell in the northern coast sections and thunderstorms accompanied by rain occurred in the southern section on the 22d and 23d. The rainfall in the southern mountains is reported very heavy.

Grapes and raisins were somewhat damaged by rain in San Bernardino county and other portions of the south, but no injury was done to the raisin crop in San Diego county. Raisin making in the San Joaquin valley is progressing rapidly and some of the raisins are going to packing houses. The crop is turning out rather better than expected. Wine and table grapes are yielding an excellent crop in many places. Wineries are running in all sections and heavy shipments of grapes are being made. Almond harvest in the San Joaquin valley is nearly completed and the crop is good. Walnuts are nearly ready for harvest; the nuts are well filled, but the crop will be below average in most sections. Prune drying is nearly completed; the yield is below average, but the fruit is of excellent quality. Oranges are in good condition in all sections and one of the largest crops on record is expected. Apples are in unusually good condition and will make a heavy crop.

Hop picking is almost completed and baling is well under way; the crop is about average in yield and quality. Harvest is progressing on beans and sugar beets. The wheat crop in San Benito county is better than expected.

Eureka Summary. — Considerable fog along the coast, but weather generally favorable. Thrashing is about finished; the yield of oats is exceptionally good. Interior grass is very dry and the flow of milk has decreased. Moderate shipments of apples.

Los Angeles Summary.—Showers Friday did neither good nor harm. Grapes are well ripened and going to winery. Celery is in fine condition and shipments have commenced. Bean thrashing continues.

BUSINESS NOTES

The Seattle Sunday Times devoted the first page of its magazine section in its last issue to a large portrait of Charles H. Lilly, president of the seed and poultry supply house of Chas. H. Lilly Co., Seattle, Portland and San Francisco. An interesting character sketch tells how Lilly, when 15 years old, on an Illinois farm, determined to be "somebody." That determination, says the Times, was the keynote of his success. The progress of this farm boy, and the growth from the humblest of beginnings of the business institution he established, are vividly told by the Times. Both the story and the manner of the telling tend to make the article a stimulus and an inspiration to an ambitious young man on a farm today.

THE FENCE THAT SELLS.

We are printing in another part of this issue a very attractive advertisement issued by The American Steel & Wire Company, manufacturers of American Fence. It is headed American Fence Talks by the makers, and sets forth some very interesting statements.

The American Steel & Wire Company are very progressive and up-to-date, and they have every facility for turning out the best fence that it is possible to manufacture.

With their immense capital—which enables them to manufacture American Fence all the way from the digging of the ore out of their own mines into the finished product—surely puts them in a position to offer a reliable fence at the very minimum of cost.

Read carefully the advertisement of the American Fence in this issue; you are safe in buying a fence that is so well manufactured and sold by such a responsible concern.

If you don't find a dealer in your own town that handles this fence, we suggest that you write The American Steel & Wire Company direct and they will send you a catalogue and direct you where you can get their fence. Their address is The American Steel & Wire Company—your letter should be sent to their nearest address to you—Chicago, Denver, New York or San Francisco.

DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES
Simplest Press Made.

Lifting Jack goes with each Press. Powerful—puts full weight into box car. Tracks with a wagon; 2 horses draw it on common roads.
Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

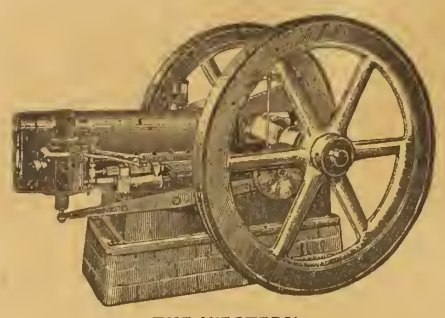
WIRE FENCE
GOODS CLOTH NETTING WORK BARB WIRE
HOG COW HORSE SHEEP
WEST COAST WIRE & IRON WORKS
19 FREMONT St. SAN FRANCISCO

When writing advertisers mention Cultivator.

BURN AIR AND SAVE FUEL
You can do it with the
HAGUE IMPROVED DOMESTIC OIL BURNER
It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to
Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST

MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P.

CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED

BURNS CHEAPEST FUEL

BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.

908 to 932 No. Main St., Los Angeles, Cal.

SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOOOWARO PATENT MACHINE BANOEO PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOO WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.

313 N. LOS ANGELES ST., LOS ANGELES, CAL.

Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

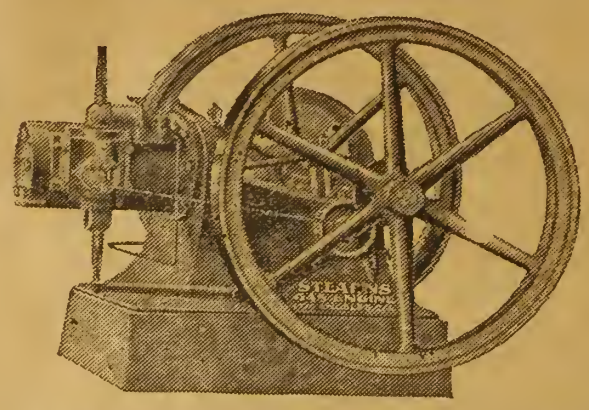
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

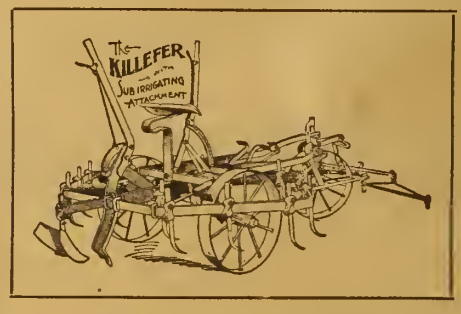
PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

California Cultivator

LOS ANGELES, SAN FRANCISCO

OCTOBER 6, 1905

A TULARE LAKE DISTRICT DAIRY FARM

In Kings county, where alfalfa is grown without irrigation and from three to five crops are cut annually. Last year one creamery alone paid its patrons $120,000. This year that record will be broken. No section in California surpasses this for profitable returns from the dairy, nor in the raising and fattening of cattle and hogs.

CIRCULATION EXCEEDING 11,000

PARTICULAR MEN

Owe it to themselves to see our stocks before they select their Fall Suit or Overcoat. We lead in variety, style and extra value.

HARRIS & FRANK, Leading Clothiers

Two Stores:

117 to 123 N. Spring 337 to 341 So. Spring

Los Angeles, California

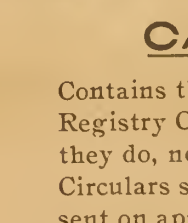
When writing advertisers mention Cultivator.

WE BUY ALL KINDS OF POULTRY

At Highest Market Prices Possible; Fancy as well as Table Poultry. Ship by express—we return all coops.

LAWSON'S = = 3420 Central Avenue, Los Angeles, Cal.

When writing advertisers mention Cultivator



BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Oomestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

When writing advertisers mention Cultivator

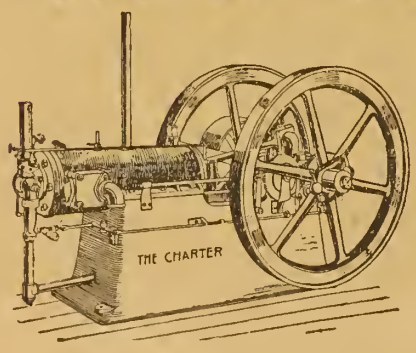
Peas *500,000 Pounds Two Hundred and Fifty Tons* **Peas**

Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

ECONOMY IN RAISING WATER



Is possible with a reliable engine. We have a good gasoline engine for little money. Competent engineers at hand to give advice on installation. Write us for information on Gas, Gasoline and Steam Plants.

Pacific Coast Mfg. Co.

126-128 So. Los Angeles St, Los Angeles, Cal.

When writing advertisers mention Cultivator.

Write for catalogue

AMES PUMPS ARE STANDARD

A.T. Ames, Galt, Cal.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON

884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.

We Can Save You More Money

Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building Shops and Yards: 860 North Main St
Phones: Home 2367; Sunset Red 2811 Phones: Home 1088; Sunset Main 1088

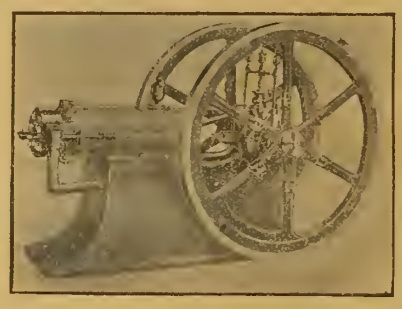
Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line raised by a NEW POMONA PUMP and ten inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

Wm. Gregory

602 North Main St. Los Angeles, Cal

"Johnny, Git Your Gun"

At **HOEGEE'S**

Our bran new catalogue will tell you all about it. Address Dept. A.

CANVAS IRRIGATING HOSE

1¾, 2½, 4, 9 11, 13 Inch — COSTS LITTLE LASTS LONG

KHAKI SUITS Faultless Fit To Order $4.50

Send for Self-Measuring Blank

The Wm. H. Hoegee Company, Inc.

Phones—Exchange 87 138-142 S. Main St, Los Angeles

When writing advertisers mention Cultivator

SHASTA ROUTE

is the way to the great

SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

REDUCTION IN RATES—

$28.00 ROUND TRIP

Exposition closes Oct. 15. Information at 261 So. Spring St., Los Angeles

SOUTHERN PACIFIC

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 14 LOS ANGELES, CAL., FRIDAY, OCTOBER 6, 1905 Subscription $1 a Year

Experiments with Inoculation of Seed

In California Produce Excellent Results. Interesting Paper on the Subject by J. Allen Osman, Whittier

I believe I was to give you a report of a series of experiments that I have been carrying on in reference to forage crops, and in compliance with the above promise. I beg leave to give you the following results of experiments carried on at my home place, Ventruilla Ranch, Rivera.

In the fall of 1903 I sowed Canadian peas on 24 acres of walnut orchard. This ground had never, to my knowledge, been planted to peas before. In the spring of 1904 I turned this crop under and so far as I am aware there was no special improvement noticeable in the crop, although the crop that year was much larger than the preceding year, but I could not ascertain that there was any appreciable difference between the crop on this ground and that on my neighbors.' In the fall of 1904 I sowed this same 25 acres again with peas. I also sowed another field of 20 acres in peas and another piece of 5 acres. Neither of the last two mentioned had ever had peas sowed on them to my knowledge. I sent to Washington for some bacteria to inoculate the seed. I sowed probably what would be an acre of the first 25 acres which was sown the year before. Note carefully, please, the results. In the spring of 1905, just prior to plowing this under, I pulled up from various parts of the field, roots. Where the seed had been inoculated there was a line of demarkation which was as plain and distinct as a curb line on a street. Within the zone of the inoculated soil the roots were covered with nodules as thick as they could possibly stick. Outside of this zone where the peas had been the year before the roots had quite a number of nodules, but not as large nor as many as where the ground had been inoculated; whereas in the two other fields where peas had never been sown before there were only rudimentary nodules and not very well defined. Under a glass they could be discovered but they were not prominent or well defined to the naked eye. I have a place in this orchard, which I will designate as No. 1, sown in the fall of 1903, in which there has been a wash-in of white sand and there are four or five walnut trees which grew well until they were about six years old and for the last three years there was no appreciable growth prior to this year. The fruit on the trees dried up and dropped off and the trees looked as if they were well-nigh their end. I was going to remove them when it occurred to me that these trees offered a most excellent opportunity for experimentation. I could see no appreciable difference in the trees last year, but this year (and, by the way, they are within the zone of the inoculated seed) I could discover that they have grown very materially and they have a reasonable amount of fruit upon them which they have matured. In this bunch of poor trees two trees stand outside of the inoculated zone and they have not done as well as those within the above described limit. Whether this is a mere coincidence or not, I leave it to the reader to judge. I am convinced that by continuance of this method of green forage that we will bring those trees back again to vigor. The reason I think so is because formerly this particular part of the orchard was good ground, but being in a sort of arroyo the sand washed in in one of the floods which visited California some years ago. There are about three feet of good soil, then about two and a half or three feet of this white sand when we again strike good soil. My thought is by a series of experiments to determine whether by fertilization we can force the roots down through this sandy strata and find feeding ground below. I think we can draw the following conclusions from the above narrative: That inoculating the seed produces immediate results; secondly, that where peas have been sown the year before that inoculation takes place the second year but not to so marked a degree as where the seed is inoculated; and thirdly, that the first year where peas are sown inoculation is not of much benefit; that the benefit would be the same as any green forage turned over, but it prepares the ground for inoculation of the subsequent crops; that the results to the growth of the tree and to the fruit bearing qualities are no doubt vastly enhanced and that the nitrates given to the ground by this method of culture will be of great benefit to the walnut industry. I have no doubt but that many men have observed these same things, as above narrated.

* * *

In an extended review of his experiments with alfalfa bacteria, A. D. McNair in Farm and Ranch writes that "the Pacific states seem to have an abundance of alfalfa bacteria as is proved by the fact that the nodules are found on the alfalfa root in all these states. On the slopes east of the Rocky Mountains there is also a good supply of these bacteria, but when we reach Eastern Kansas and Nebraska they become less frequent or are not found at all. From the longitude of eastern Kansas to the Atlantic ocean it was supposed, until two years ago, that alfalfa bacteria were present only in the rarest instances; but thanks to the researches of Prof. Hopkins of Illinois, we now know that the bacteria of melilotus or sweet clover, is practically identical with alfalfa bacteria and that where melilotus grows wild along road-sides and creek banks, the land is already inoculated with alfalfa bacteria.

It has been proved by many experiments that if alfalfa bacteria are not in the soil they may be put in by artificial means and the process of putting them in is called "inoculation."

Soil may be obtained from a field which already has the bacteria and may be scattered on the field which is to be sowed; or, "pure culture" bacteria may be obtained from companies who deal in them with full directions how to use them. If the soil itself is inoculated it is called "soil inoculation." If the seed is inoculatd it is called "seed inoculation."

Much testimony has been collected by the United States Department of Agriculture and by private companies showing that farmers have gotten excellent results by inoculating with the pure culture bacteria. My own experience with them was not good, but with soil from an old field it was good. I find, also, that such authorities as Prof. Hopkins of Illinois, and Joe Wing of Ohio, are more favorably impressed with the old method than with the pure culture method. In using soil from an old field I think it is safer to drill it in the ground than to scatter it broadcast where the bright sun shines on it, for bacteria "love the darkness better than the light." As regards quantity, I think that from 100 to 500 pounds of soil should be used per acre.

There is a widespread belief that alfalfa bacteria are the same as cowpea bacteria and that if the land has grown cowpeas it is thereby inoculated for alfalfa. I do not believe that this is the case and I will offer as evidence a leaf from my own experience.

On the experiment farm at Southern Pines, N. C., I found that cowpeas, violet beans, soy beans and peanuts each and all had nodules on their roots, whether planted on one part of the farm or another, proving conclusively that the soil was naturally inoculated by these legumes. When, however, I sowed alfalfa, crimson clover and hairy vetch on the same land I found no trace of a nodule and it was only after alfalfa was inoculated with alfalfa soil, clover with clover soil and vetch with vetch soil that nodules appeared on these legumes. Surely if cowpea bacteria are the same as alfalfa bacteria I ought to have gotten alfalfa nodules on land which had previously grown cowpeas, and which had cowpea bacteria in abundance. Facts, as I know them at present, seem to indicate that the bacteria of any legume may be used to inoculate only when the two plants are very closely related, as is the case with alfalfa and sweet clover, which are indistinguishable in the early stages of their growth, or as is the case of peas (English peas) and vetches, which latter are often called "wild peas."

* * *

Another popular belief is that stable manure contains alfalfa bacteria and that if land is dressed with such manure it is thereby inoculated. I find that this view is favored by Mr. Wing of Ohio, and I hesitate to oppose him on anything pertaining to alfalfa, for I know how well posted he is on the subject. Neither would I do so were it not for the fact that I previously entertained the same opinion and changed my mind as the result of an experiment which I made while superintendent of the experiment farm at Southern Pines, N. C. I felt so sure that manure would inoculate the soil that I waited expectantly to see the alfalfa grow on two plots, one of which had cow manure on it and the other a heavy dressing of manure from the horse stable. I was doomed to disappointment in both cases, for after examining a great number of plants I reluctantly came to the conclusion that the manure had no effect on nodule development.

One plant out of, perhaps, a thous-

(Continued on Page 334)

California Horticulturally

By John Isaac, Sacramento, Cal.

IT IS BELLEFLEUR.

What is palpable has been made plain, and after much argument and due consideration of authorities it has been decided that a Bellefleur is a Bellefleur. The fact that the word has been corrupted from its original form and meaning into "Bellflower," is not considered and this, one of the best of our apples, is to be allowed to continue under its original name. The apple originated in France and was given a French name descriptive of its character, which was "Bellefleur," or beautiful flower. This meant something, but its corruption into the Anglicised "Bellflower" destroyed its descriptive meaning. We are pleased to note that Prof. Wickson has taken a stand for the original and correct name of this apple and declares in favor of "Bellefleur." So it was named and so it should remain.

* * *

A VERY DESIRABLE NEW FIG

A new fig has been reported from Kern county, which if it has all the good qualities claimed for it, is certainly a very desirable addition to our horticultural products. The fruit is a seedling grown by R. M. Dodge, and it is claimed that it has very superior shipping and keeping qualities; that it may be picked ripe and shipped for great distances without souring or decaying. At the same time the fruit is of good size, plump and of very superior flavor. A ripe fig is usually a very poor shipper, as it is soft, soon sours and falls down and cannot be got to market, if the market is any distance, in any usable condition. To appreciate figs they must be eaten when fully ripe and eaten direct from the tree. If Mr. Dodge has produced a fig which can be shipped for long distances and will reach market in prime condition, he has added enormously to the horticultural wealth of the State.

* * *

FUMIGATION WILL KILL GOOD AND BAD ALIKE.

I notice a statement in some of the papers of Southern California to the effect that while hydrocyanic-acid gas fumigation is fatal to black scale, it is harmless to the scutellista cyanea. It seems to me that that sort of fumigation must be very much like our climate—one which encourages all good things but is death to all the undesirable. For years I have heard the siren song that this pest, and the other, would not live in California because they would not be able to endure our climate; that it was perfectly safe to admit trees with all sorts of diseases—the peach yellows, rosette, etc., that scale pests of all sorts might be admitted because our climate would kill them, but we might rely upon it that all desirable things would thrive because our climate was just adapted to them. We have always maintained, and the facts have borne us out, that wherever a plant will thrive or grow, the pests and diseases peculiar to the plant will also thrive, and that it was a good deal easier to keep them out than to take chances on the climate killing them after we got them here. So, in the matter of fumigation, if it is worth anything for the killing of scale, it will prove fatal to all forms of life with which it comes in contact, and if the scutellista on a tree are found alive after fumigation, then that fumigation has been a failure. Where parasites are established in an orchard there should be no fumigation or spraying. The work of the parasites may be slower than that by artificial means, but it is more effective in the long run, but there is no earthly use of expecting results from parasites while they are being annually killed off by the application of deadly washes or poisonous gases. If you want results from parasites, don't spray or fumigate. If you have doubts as to the efficiency of the parasites, go ahead with artificial remedies, but do not think for a moment that you can use both at the same time, or that you can so fumigate that you will kill all the pests and not injure your friends.

* * *

A FAIRLY GOOD FRUIT CROP.

Some how or other we are never so bad off as we think. Our prophets are usually pessimistic and see the future in a dark cloud. Every spring we have a light frost, or almost every season, and there is usually a dropping of small fruit, and then we hear the cry that the entire fruit crop of the State is gone, or at least eighty to ninety per cent of it, yet when the season is over and the returns all in, we always come out with the usaul average, with slight fluctuations, it is true. It is largely so the present season. There has unquestionably been a short fresh fruit crop this season, and a very short one too, but in spite of that fact our shipments of fresh fruits from the northern counties will exceed those of any former year by some hundreds of car loads. The canneries will put up a smaller pack of some varieties, especially peaches and pears, yet there will be a very fair pack of canned goods, and the market will not suffer. We are now hearing about the great shortage in the prune crop, but it is quite safe to predict that we shall produce more prunes than we can dispose of at fair figures, and the same is true of raisins. There has been a shortage in many varieties of fruit this season, in fact, it has been the poorest fruit season for many years, and yet there is still enough to get along with, and the predictions of the prophets have failed again.

WORTH TRYING.

Grape growers in the United States may derive a useful hint from a process, as yet unknown on this side of the water, by which vine growers in France are enabled to market fresh outdoor grapes all through the winter. The method, which is a recent invention, is both curious and interesting.

Bunches of the finest grapes, when ripe in autumn, are cut in such a way that to each bunch a piece of the vine five or six inches long remains attached. From this piece the stem of the bunch hangs—an arrangement which, as will presently be seen, is essential to the success of the operation.

A large number of wide-necked bottles, filled with water, are ranged in horizontal rows on racks in the cellar, and in the open end of each of these receptacles is placed a bunch of grapes, that is to say, the pieces of vine stem is inserted into the mouth of the bottle, and the grapes hang outside. The grapes do not touch the bottle, but are supplied with moisture through the vine stem, which is immersed in the water.

In this manner Black Hamburgs and other choice table grapes are kept fresh and perfect through an entire winter. The temperature of the cellar, being uniform and moderately low, is favorable to the preservation of the fruit, and to compensate for evaporation water is supplied daily to the bottles. Naturally, such grapes are expensive, but there are plenty of people, it seems, who are glad to pay $2 pound or even a higher price for them.—Daily Hotel Reporter.

ALMERIA GRAPES.

The first grape boat for New York will leave this port about the 15th of September and others will follow in quick succession. The crop is said to be smaller than last year, although conservative estimates place the number of barrels at 1,500,000. The grapes appear to be in fairly good condition for transportation, smaller in size than last year's crop, but harder and sounder.

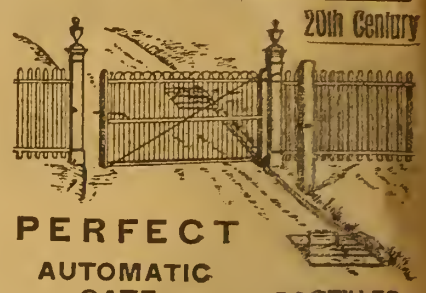
The "Trust" of 1904 has resolved itself into "La Associacion Frutera," but the objects are practically the same, viz: Accepting only the best and quickest boats, especially for America; fixing the rate of freight, and limiting the number of barrels for each, according to destination, those for New York being allowed to load 15,000 barrels.

I am informed that from 35 to 40 ships are expected for New York alone. The majority of these will be passenger steamers.—From report of A. E. Charleton, Consul, Almeria, Spain.

He (reading about the last society wedding)—They have a lot to say about what the bride wears, but they have nothing to say about the poor bridegroom.

She—They have no need to, because it is a well known fact that he usually wears a worried look.—Boston Globe.

The Green-Marshall Co.
Manufacturers and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

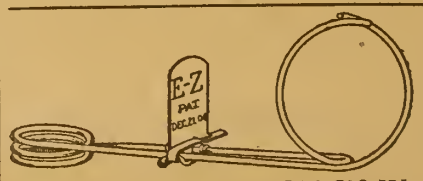


PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. Works 365 days each year. NO OILING—ten minutes each year and 10 to 20 cents expense—no more.
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump
This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 32.
BYRON JACKSON MACHINE WORKS
411 Market St. San Francisco, Cal.
When writing advertisers mention Cultivator.

Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO



Ask Your Dealer for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

CHICO NURSERY CO.
Our Specialties:
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS
Complete Line of
FRUIT TREES and ORNAMENTALS
Agents Wanted
Third and Walnut, CHICO, CAL.

Union Bank of Savings
RESOURCES $3,831,680.29
3% Interest Paid on Ordinary Deposits 4% Interest Paid on Term Deposits
Increase in Deposits since June 30th, 1904 $1,300,000.00.
Safe Deposit Boxes from $4 yearly up.
223 South Spring St. Los Angeles, Cal.

Hints on Seed Selection

By J. C. Ostergard, Burbank, Cal.

The rancher who raises first class produce makes money. The rancher who raises second class produce makes a living. The rancher who raises third class produce makes a dismal failure.

* * *

Conditions for Success.—Conditions may be said to be numerous, but in my opinion the most vital ones are good seed, good soil, and good cultivation. This time of the year is most opportune for seed selection, of which I shall treat in this article. There is an idea abroad that for success, we must import seed. It is not strange that this notion should be as deep rooted as we find it. The seedman has proclaimed it, the ignorant and unscrupulous agricultural editor has backed it up. The fact of the matter is that some kinds of seed can be successfully grown in one locality, while the same seed, if raised under different climatic and soil condition, would produce an inferior seed. Many kinds of seed grown in California are superior or equal to the best grown anywhere in the world. There, is, however, some sorts, among which is cauliflower, cabbage, carrots, turnips, beets and radishes, the seed of which it is highly important that we procure from abroad. Never in the history of the world have we had fruits, grains and vegetables of such high quality and productive ability as today. These desirable results have been achieved only by the endless care and watchfulness of the skillful tiller of the soil. Nature wants seed but she has but a single object in view, namely, reproduction of her species. In everything it matters little with her if it contains little or nothing edible. No matter how much you improve, she has a general tendency toward first conditions. Hence, in order to maintain the high state we have arrived at, the most constant vigilance is imperative.

* * *

How the Standard is Maintained.—The honest seed grower selects from a field, seed of only the very choicest plants for his next year's seed crop. The balance is harvested and sold to customers who will not, or cannot, grow their own. While the seedsman has thus secured to himself the very choicest, yet all the seed sold was grown from the very choicest of the previous year, and will prove entirely satisfactory. Were the seedman to harvest and sell seed from only perfect specimens, seed could only be procured at fabulous prices. I have had watermelon seed that I would not have sold for five dollars a pound, and have refused one dollar for a single melon. If the seed grower takes the care aforementioned he does all that can be expected, but many do not, hence it is important for everybody to save his own where practicable. Be on the lookout for sports, that is, new varieties, as they appear from time to time. Make careful tests before you plant a whole field with them.

It is said that a Chinese emperor once watched a head of rice that was far in advance of the field. He marked the spot and kept careful watch until it was ripe, which occurred six weeks ahead of the rest of the field. The precious grains were guarded as though they were jewels. When planted in the Imperial garden a watchman guarded the little plot until harvested. That little head of rice extended the rice fields for several hundred miles northward, and was recorded by order of the emperor as the most important event in his reign.

* * *

Imported Seed.—When you buy seed you should know the kind of soil it is grown on, if it is rich or poor. To increase your yield and have a heavy, bulky growth the seed should come from poor soil, never procure seed from very rich land, for a thin soil, unless you want an improved quality and diminished quantity. If your soil is so poor that you know of no poorer, then select your own.

* * *

New Varieties—While scientists have done much toward this end, yet it is doubtful if all their efforts can match what has been accomplished merely by selection of sports as they appear from time to time. I will mention the Navel orange, the Eureka lemon, the Muir peach, the Phillips cling, the Logan berry, the soft shell walnut, the I X L, Ne Plus Ultra and the Nonpareil almonds, and the priceless Concord grape is yet another example. Thus it will appear that it is not necessary to be a wizard or a scientist in order to obtain new and invaluable fruits and plants. Let every boy and man keep his eyes open for new and better fruits and plants, but don't be too hopeful; be critical and don't expect that you have something that the men of affairs will tumble over one another for, just because it is new and there is nothing like it. It must have special merit either in producing more or be of better quality, or make a better appearance than anything in its line. White blackberry, for instance, is but a novelty, and it utterly fails as a boon to mankind in any sphere; the fact that it is white is but a negative virtue; nay, it is no virtue at all; that fact is sufficient to debar it from the markets, even though it otherwise was up to standard.

* * *

Ladybugs and Aphis.—If you see any vines having aphis, destroy them at once. You can expect a large number to hatch next spring from a small colony left over this fall. Ladybugs, the natural enemies of the aphis, need protection during the winter months. To this end nothing is better than a dozen corn stalks tied together and tied to trees head down. Or in the open, drive stakes in the ground and tie the corn stalks to them upside down. Our friends will keep dry during the heaviest storms and be ready for work next spring.

* * *

If you have a piece of land that needs invigorating, irrigate it now, do it well, and sow to Canadian field peas, plow under in the early spring and note results, which will be highly satisfactory.

Sometimes there are living beings in nature as beautiful as in romance. Reality surpasses imagination; and we see breathing, brightening, and moving before our eyes sights dearer to our hearts than any we ever beheld in the land of sleep.—Jane Austen.

Queries and Suggestions

PLANTING ALFALFA.

Editor Cultivator: Is it best to sow barley with alfalfa? Many do so, claiming that it helps to keep down the weeds.

What crop would you advise planting on land where chickens run? Would they disturb garden peas to any extent? We feed them Calfalfa and fresh kale every day so that they are not over hungry for green stuff. What variety of peas is best for field culture?—Subscriber.

Many do as you say, sow the barley with alfalfa in planting, but we think as a rule preference is given for the alfalfa to be sown alone. As you say, the extra crop helps to keep down the weeds, also prevents the ground from baking, but the fact that it also takes from the moisture and nourishment of the soil and prevents stooling, usually induces planters to sow the alfalfa in its own seed bed without the barley.

Your potatoes are a good crop where chickens are to run. Peas, likewise, would be, though it is possible you would have to keep the poultry off the field during the sprouting and early growing period. The Marrowfat is a good field pea. The favorite, however, in the southern part of the State is the Yorkshire Hero. Corn is a good crop to grow where poultry ranges, though, of course, in that case, the poultry must likewise be kept from the field during the early days of growth. When it gets higher they will not injure it. Either this or the peas are good crops to alternate with potatoes and leave the ground in good condition for potatoes next year.

VARIOUS QUESTIONS.

Editor Cultivator: Please advise me as to the best season and method of pruning cherry trees. 2. What is the best way to keep horses in good flesh while working? 3. What is the best food for breeding chickens? 4. What is the trouble and what is the remedy for peach trees when the new growth dies in early springtime? Afterwards the trees put on beautiful new growth. —H. A. F.

Your query regarding pruning has been referred to the Cultivator representative in the North and we hope to give a practical article on that line a little later. 2. To keep work horses in good flesh means clean stables, thorough grooming, washing of shoulders during the hot weather at least, clean, wholesome hay, preferably barley, if it does not injure the mouth, with reasonable amount of grain feed, which should always be decreased when animals are not working, and many other suggestions which may be seen in the stock department of the Cultivator in the issue of September 22d.

3. Read Mrs. Basley's article on feeding of poultry in former issues. 4. It's a trouble which prevails all over the State and for which no one has yet secured a remedy.

JOHNSON GRASS.

Editor Cultivator: I send you two samples of grass that annoy me. What are they and how can I get rid of them?—E. H. Elkin, Lompoc.

The green, thriftier-growing grass which you send is Johnson grass, a perennial which is one of the worst pests and yet is advised by some as an excellent stock food where it is once established in pasture. In orchards or along irrigation ditches, however, it is almost impossible to eradicate it. It propogates not only from the seed but by the root stalks which run underneath the ground, making new shoots at each joint, as they grow. About the only way to eradicate it is thorough cultivation, if it is on ground where it can be cultivated, or by grubbing out and continually keeping the green growth from ever appearing above the surface. Of course, it may also be killed by heavy applications of salt, but this "kills" the soil for any other crop.

The other dried grass which you sent was an annual, "wild rye." This is no such pest as is the other, in fact is a good stock food, but, if you do not wish it to be perpetuated, mowing before it goes to seed will in a short time kill it out.

DURUM WHEAT.

Editor Cultivator: I have seen somewhere a strong recommendation of "Durum wheat" as a drought resistant grain for our semi-arid section. I want to raise some wheat for chicken feed. Will this wheat have any advantages over other kinds for this purpose?

Also, has "Chevalier barley" any advantage over common barley for grain raising?—W. B., Dulzura.

Durum wheat has been grown quite largely in some sections of the Middle West. At the mills here, however, we are unable to get any information as to local trials with it. There are over 6,000,000 bushels produced annually in the United States and it has commanded a higher price than any other wheat. It is a good drought resistant, and we understand yields heavier than any other wheat. It is used largely in the manufacture of macaroni, but, we are told, has less of gluten than millers desire. Inquiry at the mills and seed houses in Los Angeles developed the fact that no seed is to be had here of this wheat. Doubtless it will make an excellent chicken food.

Regarding Chevalier, or beardless barley, it has been grown many years. It yields far less than the common bearded grain and seems more subject to smut and other diseases.

SOLANUM WENDLANDII.

Editor Cultivator: Can you tell me what is the matter with my Solanum Grandiflorum? It leaves out, blossoms and keeps shedding its leaves until it is perfectly bare. The leaves seem to curl and drop as soon as leaved out, and I find lice on leaves and have washed the vine many times with suds.—Mrs. C. A. Loud, Encinitas.

We presume you mean the Solanum Wendlandii, sometimes called the potato vine, a magnificent climber, with dark, glossy, green leaves with large-lilac blue flowers. Just what the trouble may be with your vines, it is hard to tell from the above description, as it might be caused by red spider, or by the aphis, or it might even be caused by drought or, at this season of the year, might even be shedding its leaves naturally, as it is a deciduous vine. If the aphis or spider have to do with the dropping, it is possible spraying with a solution of distillate, at the rate of two gallons of distillate to one hundred gallons of water may prove a good remedy.

San Francisco capitalists have taken samples of sand from the Yuba river at Marysville and if the tests prove right they intend to manufacture glass and lime bricks at that place.

Outlook for Citrus Industry

The getting of exact prices or, better, of average prices, from any one section is an impossibility. It is comparatively easy to get the big figures where a grower has done exceptionally well, and, with some of the co-operative associations averages may be secured, but to attempt to secure averages from an entire community brings one up against a very hard proposition. If one goes to the individual grower who has been disappointed in the season's returns, he will find great backwardness in coming forward with returns. This is occasioned to a certain extent by the strife between co-operators and independents and the following of the Citrus Union. At one time the associations were not as strong as now and made annual campaigns for new members, and this sometimes occasioned more or less feeling between neighbors on account of the difference in opinions as to the best methods of marketing. But it goes without saying that the man who gets big returns "doesn't whisper it down the well but climbs a tree and hollers." When it is understood that there are seventy-five hundred of these growers in California, it may be seen that there will be some diversity of opinion.

The California Fruit Growers' Exchange will net this year for all oranges something over $500 per car. No other large shipping agency which we have approached keeps their records in such a way as to give this information out, or, if they do, withhold the information. In fact, no other method of marketing takes into account so many people as does this. In fact, there is more of an independence between grower and shipper with the other systems than with the Exchange, so that there is no call upon them or other shipping agencies to make known the entire transactions as there is with the Exchange which is purely co-operative, every official being subject to the will of the members to whom he must make report. This has objections in that the publicity required by the members has sometimes been an embarrassment to the management. There is sometimes even an unreasonable demand on the part of the grower that he shall know all the ins and outs of the business when consideration of the fact that these business secrets thus open to public inspection weaken the management to a certain extent in its ability to control the business. But it is one of the weak points to co-operation which is more than overcome by many strong ones.

As to the different localities, it is, as we noted before, a year somewhat different than heretofore, for the greater prices of Valencias which are more generally grown toward the ocean give a higher average to these shippers than to those in the inland valleys where the finest of Washington navels are produced. While one association, the name of which we will not mention, secured only a little over fifty cents per box for its choice grade regular size fruit, it received a most satisfactory price for its Valencias and lemons, which predominated. The price usually secured for Washington navels may be said to run from fifty cents to one dollar, or possibly a little more than one dollar, per box. For instance, the Duarte-Monrovia Exchange secured for its shippers an average the year through of 68.2 cents per box for all navels shipped. The San Antonio Fruit Exchange secured in the neighborhood of 85 cents per box for all navels shipped. The Upland Citrus Association, of which Chas. D. Adams is manager, has sent out the neatest and most complete report we have seen. It gives almost every feature of the business so that every grower may thoroughly understand the financial returns and the seasons or pools, rather, in which the biggest prices were secured. For this association navels constituted eighty-eight per cent of all the shipments and Valencias only three and a half per cent. For navels, they secured $1.17½ per hundred pounds which would be slightly over 82 cents per box, which is somewhat more than last year's return for the same fruit.

This association made eleven pools which is more than most associations make. The pools began with the autumn Valencia pool, September 1st, which was practically the cleanup of the Valencias, followed by the special November pool, at which the navels began to be forwarded, the regular November pool, the first December pool, the second December pool, mid-season pool, from December 20th to March 24th, and the monthly pools from then on to the end of the season. This year they have arranged for the monthly pool to begin with the first of January which, with the special pools before then, makes fifteen pools, This gives every grower the opportunity of shipping at any season of the year he may see fit.

From this it will be seen that the returns of sixty and eighty cents, as the case may be, per box, the season through, do not always indicate what each individual grower receives. In fact it surely does not, for that covers all grades. The grower of the better fruit, also the grower who has fortunately chosen the more favorable pool wherein highest prices are secured, shows better returns.

At the time we visited Mr. Van Luven, manager of the San Bernardino County Exchange, he was unable to give exact returns, but the fact that his territory has largely increased its allegiance to the Exchange for the coming year indicates a very favorable condition of returns from the growers' standpoint. In the past, the field of the San Bernardino County Exchange has been the weakest in the Exchange holdings of any section of California, for within that district are shipped nearly seven thousand cars and of that the Exchange has held little more than fifteen hundred. The number of associations connected with the Exchange for the coming year will be seven; one at Redlands, one at East Highlands, one at Highland, at Rialto, Colton, Brynmawr, and one at Redlands Junction. In Redlands alone the output has been between thirty-six and thirty-seven hundred carloads. There the Exchange association has only about five hundred cars. There is one good point to be noted with the Redlands growers. They have joined themselves into independent co-operative associations, at least, to a large extent, so that co-operation is winning its way even there. One grower in Redlands told us his returns for his entire orchard, including culls, was $1.24 per hundred pounds and the manager of one of the co-operative associations estimated that the average for the entire section would not be far from $1.15.

At Riverside it was yet too early to secure any definite figures. The Citrus Union people who were appealed to, the independent shippers and the Exchange all had no figures or even estimates to give. Riverside produces something in excess of six thousand carloads of fruit, of which about thirty-five hundred are in the Exchange. In the height of the season, three trainloads per day are regularly sent out.

In Orange county is more general following of the plan of the association picking gang. This has been found very satisfactory and more uniform fruit and greater freedom from injury from picking is thus secured. One independent shipper in that county informed the writer that he had secured from $.75 to $1 a box for all his patrons for their navels but this was disputed by some growers who said they had reason to know.

As to next year, a most hopeful feeling prevails. The crop will be large, probably about the same as last year, but the experience of the past will no doubt aid in securing wider distribution and more satisfactory prices.

Grape Vines

Wine, Raisin and Table Grapes on their own roots and grafted on Phylloxera Resistant Roots.

Write for our prices on everything in the nursery line. We can refer you to satisfied customers in every locality.

Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c postage.

Fancher Creek Nurseries, Inc.

Paid up Capital $200,000
Geo. C. Roeding, Pres. & Gen'l Mgr.
FRESNO, CALIFORNIA
Growers of Trees and Vines of All Sorts

When writing advertisers mention Cultivator.

THE QUALITY STORE

AN ELEGANT FALL STOCK

MEN'S AND BOYS' CLOTHING
FURNISHINGS AND HATS

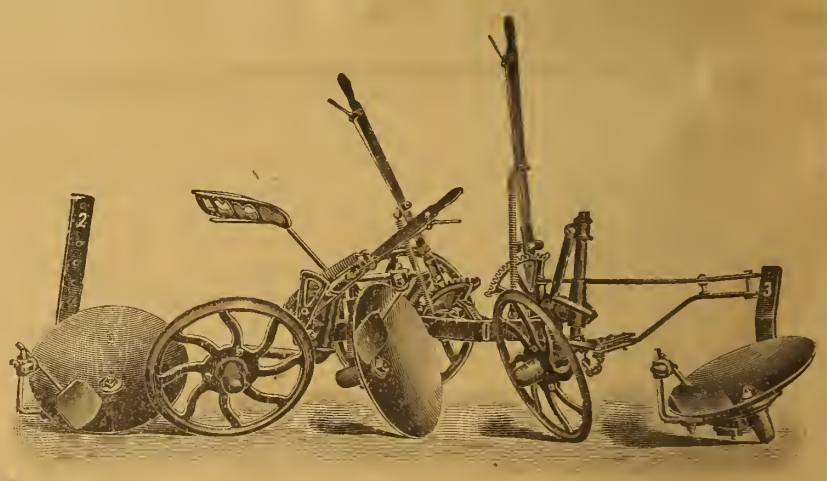
The Latest Styles, Best Quality and Good Values, with the M & B. Guarantee of Goodness.

ENOUGH SAID

CUT THIS OUT and MAIL TO US with name and address and we will send you in November a FINE 1906 MEMORANDUM BOOK—FREE.

MAIL ORDER DEPARTMENT

MULLEN & BLUETT CLOTHING CO. First and Spring, Los Angeles, Cal.



The **Emerson Disc Plow**

Is the choice of every farmer who wants the best. It leads all other makes by virtue of its

Points of Superiority:

Levers controlled from the seat; turns a **square** corner.

Number of discs easily **reduced** or **increased.**

Dust-proof and **oil-tight** bearings.

Rear lever provides ample depth of furrow in opening land and when on the road.

It is **compact, strong** and **durable.**

Call and see our line or send for catalogue. We have tools and farm implements of every description, together with the best buggies, wagons and harness on the market.

Our Prices are Right.

Newell Mathews Co. 200-202 NORTH LOS ANGELES STREET **LOS ANGELES, CAL.**

Selling Agents—Bird & Beebe, Anaheim Whittier Implement Co., Whittier
Twomey & Smith, Pomona Riverside Implement Co., Riverside H. Gregory, Redlands

CITRUS FRUITS

By C. A. Day. Pasadena

OUT-LOOK FOR ORANGES FOR THE COMING SEASON.

As to the prospective yield of oranges for the coming year, there is no reliable data at hand. The light crop of Valencias the past year, will undoubtedly be followed by a full crop. as this variety of oranges is inclined to bear in alternate years a full crop, fol lowed by a light crop, and this limited observation of the writer verifies this supposed fact in the set of this years crop.

One of the secrets of successful fruit growing is the ability to grow a fair if not a full crop in the off year, as the prices in the off year are usually much higher than with a full crop. An instance of this kind has come to my notice in the sales of Valencias for this season. A single acre of Valencia oranges, 107 trees, under the best of culture gave returns to the owner of the trees of $1148.

The probable yield of navel oranges for this coming season is expected to exceed that of last year, although many orchards coming under my observation have a lighter crop set than last year.

This, however, in a majority of cases is due to fault in culture or a heavy stock of black scale present on the trees dating back to last summer. The crop of apples on the Atlantic seaboard is reported 50 per cent. of an average crop. This was to be expected as last year's crop of apples was a very large one.

The Cape Cod crop of cranberries is reported to be light. The crop of Florida oranges is estimated as one third less than last year, with the prospects of an early movement, probably the result of last year's experience with the late frosts.

Another thing that must be taken into account is that the warm winters in California for the past few years may be followed by a cold winter this year with probable losses of fruit from hard frosts.

The liberal rain fall of last winter with climatic conditions favorable for the production of a better class of fruit with better carrying qualities and less puffed fruit in certain localities, are conditions favorable to the grower. All things taken into account, the outlook as to yield, quality and prices is by no means gloomy.

* * *

Returns from late varieties of oranges for the season just past—All late varieties of oranges, including seedlings, St. Michaels, Sweets, Joppas, blood oranges and valencias have brought good prices.

This calls to mind a paper by C. C. Chapman read before a farmers' institute some years ago, in which he said, in substance, that he did not believe in staking all on a single variety of oranges and that he had planted a number of varieties of oranges, including the late varieties. The reported sales of Mr. Chapman's late varieties of oranges the past season, verifies the wisdom of this orange grower; not to put all our eggs in one basket.

The great majority of the orange growers of California have planted exclusively the navel orange, because of its fine quality and it being a standard variety. There is a large acreage of navel oranges planted in California, and the constantly increasing yield of new orchards coming into bearing and of the growing trees in connection with lower prices have raised fears in the minds of many growers as to the future profits from this variety of orange. There are, however, some favorable conditions affecting the navel orange. California growers have no competition from navel oranges grown outside of the State, and from midwinter until the first of June it has little or no competition from other varieties of oranges and during the greater part of this period there is but little competition from other fruits. Another thing, the demand for the navel orange is constantly increasing both in the home and foreign markets. The planting of new orchards has very nearly ceased and the present high prices of lemons has stopped the budding over of lemon trees to navels. The high prices of Valencias have induced many to bud over navel trees to Valencias. Some of our older navel orchards are not yielding as large crops as formerly. The lower prices for navels have caused owners of orchards which produce inferior quality of fruit, to neglect the trees. In the rural section and near the large towns and cities, where the demand for residence property is increasing, many orchards are being subdivided for residence purposes. Everything considered, the future of first-class navel oranges is by no means discouraging.

* * *

We seem to have but little to fear from outside competition in the increased production of Florida oranges. The possible increase of production of oranges in Cuba may have some effect on the prices of holiday and of early winter oranges, but the supply of oranges from Cuba will not be navels and the time of shipment of Cuban oranges will last from early August to January, possibly February, not coming in competition after midwinter. We are told that the oranges grown in the tropical climate of Cuba will not hold on the trees very long after coming to full maturity, and have not the keeping qualities of the oranges grown in the sub-tropical climate of California. It is probable that the early oranges from Cuba will come in competition with the Valencias in the fall.

The present high prices for Valencia oranges cannot be expected to continue. The Valencia orange is of good quality and a good keeper, but there has of late been a large increase in the acreage of this orange in Southern California. The high prices of other late varieties of oranges which during a part of the season come in competition with the Valencia, will undoubtedly stimulate an increased planting of these varieties, and possibly the Cuban oranges in the near future will also come in competition with the Valencias in the fall market. Another thing must not be forgotten. Our late varieties of oranges which supply the summer markets of the East, are marketed at the time when there is a large supply of summer fruits. I am not presenting the adverse side in order to discourage the growers of Valencia oranges, but to give a timely caution. not to overdo a good thing. I believe the Valencia orange and other late varieties have a good future provided an excessive increase of late varieties does not bring about an over-production and a glut in the summer market with consequent low prices. Success in the growing and marketing of oranges, or other varieties of fruits, depends upon the foresight that carefully considers the future supply and demand, with the competing factors of oranges produced in other sections, and the competition of other fruits in the market.

We have an instance of this in the case of an orange grower of Sierra Madre, who some years ago planted out an orchard of the Japanese orange, the Oonshu. With the nearby home markets of the cities of Pasadena and Los Angeles he sold this variety of orange at good prices, because its time of ripening came when there were no other varieties of oranges coming in competition. Last fall a considerable shipment of the Oonshu oranges arrived in San Francisco from Japan. The prices in our home market for this orange, evidently guaranteeing fair returns for the long shipment to an orange-producing section, as a part of this shipment was put on the markets of Los Angeles and Pasadena.

LESS CLIPPER-CUT FRUIT.

It will be recalled that the principal lesson which G. Harold Powell, an expert from the Department of Agriculture, Washington, D. C., sought to instill into the minds of the orange pickers of California as the result of his months of investigation in orange decay, was that, of all the causes of decay of fruit in transit, none were equal to that of the carelessness of the pickers. Mr. Powell went into citrus orchards in all parts of Southern California, in some of which there was the utmost carelessness, and in others greater care in the fruit picking. In no case, however, did he find freedom from clipper-cut fruit. Amongst the most careless, it was common to find forty to sixty per cent of the fruit seriously injured. The more careful pickers showed fifteen per cent and possibly on down to ten and twelve per cent. When these facts were brought to their attention, more rigid rules were laid down for the guidance of the workmen and in some orchards the injured fruit was reduced to three and four and five per cent, but this at a material increase in cost of picking.

Owners of the orchards have laid this loss largely to the carelessness of pickers, and often justly, of course, but the pickers in turn have made the counter claims that the tools with which they had to do the stem cutting were such that it was impossible to do ordinarily expeditious work without injuring the fruit. There are, perhaps, a dozen kinds of clippers, some with the kind working in a sheath, others with the ordinary scissors cut, others with the sharp edges cutting against the blunt ones, but all with the steel points endangering the delicate texture of the orange.

To overcome this injury, the growers, many of them, have largely increased the cost of gathering the fruit by insisting upon more careful work, and, as far as possible, no injury to the fruit. With this, comes the necessity for closer cut stems, so that there will be no later injury to the fruit from the long cut stems puncturing other fruit in the same box.

These facts have all caused the seeking for the tool which would accomplish this work with the greatest degree of rapidity and the least possible danger of injury. By far the best of these which we have seen is one patented by Mr. E. F. Steffa, of Pomona, and it is so simple, practical, and with the possibility of being cheaply manufactured that we believe it will be the coming clipper.

The clipper is simply the ordinary curved scissor cutter, excepting that one of the blades is practically a double blade working over these two. This gives a device with a forked blade, between the forks of which the stem of the orange is placed, when, with slight pressure, the other blade closes in the opening, severing the stem with a square cut. This point we believe to be a strong one, for with the ordinary clipper the stem may be cut at any angle, leaving the sharp pointed end to greatly injure the fruit lying next to it. The forked, or, we may say, stationary blade, is rounded and blunted in such a way that only by the grossest carelessness can fruit be injured. The cutting blade with the sharp edge and point is considerably shorter than the forked blade, and thus at all times and in all positions it is so guarded that it is impossible to touch the skin of the orange with it.

The blades of the clipper have a decided curve upward, which makes it possible to clip the stem closely, and still further prevents the possibility of jabbing the fruit with the ends of the clipper.

It is hard to give a word picture which will give an accurate understanding of the advantages of the clipper in actual work. We know, however, that statements of its effectiveness by practical orchardists who have given the clipper a severe test, prove that it has merit which makes it worthy of investigation by the careful archardist. In addition to these, managers of various packing houses have made close observation from the viewpoint of packing house managers and assert that it will, when in general use, prove a great safeguard against clipper-cut fruit. In fact, it may be said that it will practically make clipper-cut fruit an impossibility.

If this tool can be brought into general use it will, we believe, mean much to individual growers and much to California in financial returns and in reputation for sounder citrus fruits. We hope to be able to give an illustration of this valuable little tool in the next issue of the Cultivator.

MAIERS WALNUT HULLER

One man can do the work of twenty. Can be moved in the orchard and worked without water and run by hand or power. Circulars free.

G. F. Maiers, Goleta, Cal.

When writing advertisers mention Cultivator.

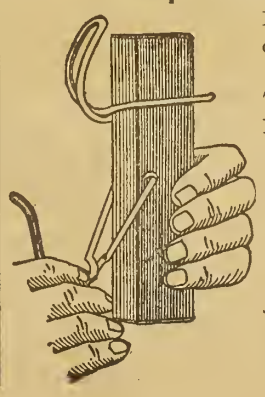
THE VERNON NURSERY

4524 Central Avenue, Los Angeles, Cal.

Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.

Phone: South 1105 A. YARNELL, Prop.

Woodward's Patent Adjustable Prop Bracket



Does not get out of order.

The Best Bracket Made.

$17.00 Per Thousand

Manufactured by J. K. Woodward & Co. Riverside, Cal

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

"THE COUNTRY BEAUTIFUL."

In many of the smaller cities of this State efforts are now being made to beautify them. The movements for the abolition of the billboard and hand bill nulsance, the cutting of the weeds and grass about public and private places, are all in the right direction. Well kept lawns, clean streets and alleys, vacant lots well delivered of weeds are all part of the work of making a city clean and beautiful. These things help any town. They attract residents and draw capitalists. But while these efforts are being made by residents of our towns why should not the residents of the country districts also make reforms along this line! Anyone passing through some sections of the county is struck by the ill-kept farmhouses, the surroundings in many instances being anything but beautiful. The fields show an abundant harvest, sheep and cattle are grazing over the pastures, and there is everything to indicate that the farmer there is prosperous.

But about the house and scattered over the farm are evidences of neglect in making the premises attractive. The lawn is ill kept, the steps worn out, while about the fences, weeds have grown up as to almost obscure the view. Over the farm there are trees in sad need of trimming, and the whole farm indicating that no effort is given toward making it look beautiful. Beauty will add to the value of any farm, and those who would make the country more attractive and their properties worth more money should give some attention to these things. The building of good roads will do more than any other one thing to bring about improved conditions in our country districts and it is already in evidence. We should have beautiful country districts along smooth and well improved highways, as well as beautiful trees, towns and cities. They are all important in the life of our people.

* * *

OXALIS.

Many bulbous oxalis are well worth cultivating on account of their handsome flowers and foliage. The principal danger to be guarded against in growing oxalis is putting bulbs in too thickly, thus crowding the soil with too many roots and starving the plants. Grown in this way they may produce few flowers, which last but a brief period.

O. hirata rosacea is a good plant, keeping rather close to the soil. The flowers are on single stems, three or four inches long, and do not droop like those of some of the other species. The bulbous oxalis close their flowers during the night and during dull weather. This species in addition to its upright habit is attractive even when closed, as the color of the buds contrasts well with the greyish green leaves.

Oxalis cernua is the Bermuda buttercup. With rather light, rich soil, a single bulb will give a surprising number of flowers. In this species they last only a few weeks, being of a fragile nature.

O. rubricaulis is grown principally on account of the stems and branches being of a brilliant red color. The flowers are pale rose and not many of them to a plant. Being a procumbent habit, it is suitable for hanging baskets. The best species of all for this purpose is the old O. versicolor. Some bulbs started in small pots and transferred to baskets, make beautiful objects for hanging in a cool observatory. They flower during midwinter. O. Bowiei is the largest leaved species of the genus and one of the easiest to grow. It has large rose-colored flowers on long stems. They should be started into growth the end of September.

The dwarf form of O. lactiflora is one of our best window-flowering plants if given an abundance of light and plenty root room. O. multiflora and O. malba are well known for this purpose. A species under the name crydentelles is well suited for basket work. For late flowering in the open border the bulbs should be planted out not later than the end of August. Bowiei, O. hirta rosacea and O. crydentelles all do well under those conditions.

* * *

TALL GROWING NASTURTIUMS.

For quick effect before permanent climbers are available, as in covering the foundation walls of a house or the lattices beneath piazzas, the tall growing varieties of nastrutiums prove exceedingly satisfactory. They afford the handsomest of color effects with their brilliant bloom and clean, attractive foliage, and few things are easier to grow or less particular as to soil.

* * *

PROTECT THE TREE.

The ruthless destruction of trees along country highways is evidently largely the result of ignorance, with all its lack of appreciation of either beauty or usefulness. In many rural districts throughout the country, the landscape is fairly denuded of tree life, simply because the abutting owners cannot realize that every good tree is worth the ground it occupies many times, and is more valuable as a feature of the landscape than as firewood. Unfortunately the country school house does not yet ground its pupils in the primer of natural economics, so that the tree that draws its modicum of nourishment from the boundaries of the grain field or truck patch, even from the other side of the fence or hedge, is dubbed an enemy, to be destroyed at a convenient time. In the present condition of knowledge of the higher conditions of life, the tree is too often condemned as a nuisance, which on the contrary should attract the veneration and care of the community. It has become the duty of public instructors to incorporate into the school curriculum under their charge a liberal proportion of nature study, that the pupils may learn to act with understanding and discrimination when the question of trees and their care becomes a personal one. Let laws be enacted in every State that will at least provide a sensible method of control and management of trees, along our country highways.

* * *

RURAL IMPROVEMENT.

The campaign for rural landscape improvement is being waged with considerable vigor in many sections of the country. In many States, in order to reach country districts, legislation has been enacted in several lines of improvement, and it is very much to be desired that the way should be cleared at the earliest possible time so that the experiences and examples now rapidly maturing may be as rapidly taken advantage of. With public interest so widely apparent, we may confidently expect an era of outdoor improvement as characteristic of our moral force an denergy as our commercial prosperity has exemplified our material progress.

* * *

FOR VILLAGE AND HAMLET.

"If your store front, residence or fence is dingy, order it painted.

"If your awning is old, torn or faded, get a new one.

"If your sidewalk, gate or fence needs repairing, fix it.

"If your advertising sign is old or faded, take it down or paint it.

"Resolve never to throw paper in the streets.

"Destroy the young weeds that are starting on your property and on your neighbor's property.

"Burn all the rubbish possible—allow no one to throw it on streets, alleys or vacant lots.

"Promise not to spit on the sidewalk.

"Organize a block improvement society, and allow no weeds to grow on sidewalk area or vacant property in your block.

"Ask your milkmen, grocerymen and expressmen to have their wagons painted.

"Irrespective of the size of your house make your lawn the finest.

CREATE TASTE IN CHILDREN.

What we want to do is to teach the children taste; get taste into the child; get taste into the household and then finally taste into the community, and when we have done this we need not fear the results. The lack of taste in the community generally is an unfortunate fact, notwithstanding our grand school system, and may be attributed, in large degree, to the failure to appreciate its necessity by our educators. Reform in many branches of public improvement would be far easier of accomplishment now had the children of the previous generation been trained in the fundamental principles of taste, the power of perceiving, appreciating and discovering beauty and excellence. The more we consider the curriculum of our public schools, the more we perceive how it could be improved to meet the changing conditions of our American life. Our children need far more than the three R's to fit them for citizenship as it is dawning upon us. The atmosphere and appurtenances of the school room should tend to impart culture and taste, which in turn is transferred to the home, and thus ministers to the general upbuilding.

The sweet peas should be well watered in the evening and heavily mulched with litter.

It is a good plan to go over the annuals and cut away a good many of the old branches. This will cause the production of new branches and these, if the soil is kept rich, will give flowers quite as large and fine as those which appeared earlier in the season.

The cineraria is one of the prettiest of the winter blooming plants. The flowers are produced in great numbers, in large flat clusters which nearly cover the plant, being very rich and varied in coloring.

To increase the quantity and quality of blooms, asters should have frequent hoeing and fertilizing. Pick the flowers freely as they appear, and the plants will continue to bloom until frost.

LAXTON'S NOBLE STRAWBERRY PLANTS
400,000 First-Class Plants. Prices on application
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297
Pasadena, Cal.

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, Etc
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

SEEDS and PLANTS
ACACIAS, LIVE OAKS AND OTHER SHADE AND ORNAMENTAL TREES, ROSES, PALMS, ETC. CHOICE FLOWER, GARDEN AND TREE SEEDS A SPECIALTY.
WRITE FOR PRICE LIST
THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
416 West Seventh St. Los Angeles, Cal.
When writing advertisers mention Cultivator

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.
Send for samples.
PRICES
12 inch long, $ 9.00 per 1000
14 inch long, 10.00 per 1000
16 inch long, 11.50 per 1000
18 inch long 12.50 per 1000
24 inch long 15.00 per 1000
30 inch long 17.50 per 1000
Agents Wanted Everywhere
YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.

General Agricultural Notes

FERILIZING GRAPES.

The widespread idea that California soils are well supplied with potash had doubtless more or less influence in limiting the use of this valuable plant food to a considerably greater extent than the facts really warrant. Particularly is this the case in the northern part of the State, and with such crops as draw heavily upon this element. The uplands generally, and especially on those on which have been grown fruits and grapes for a number of years in the northern counties are far from abundantly supplied with available potash as numerous published analysis have shown. The same fact is more generally recognized by those who have not observed the results secured by the use of properly supplied fertilizers. On soils in the regions indicated profitable fertilization should always include some form of potash, for fruits, grapes and market garden crops.

One of the crops which is likely to show the best results from the use of potash, especially if used in connection with nitrogen and phosphoric acid, is the grape.

As a basis for discussion of the relation of potash to the grape, the report of the California Experiment Station for 1894-5, gives the following as the amounts of the several ingredients removed from the soil by an average crop of grapes:

	Potash	Lime	Phos. Ac'd	Nitrogen
Crop of 10,000 lbs	50.00	10.00	15 2	17.0
Seeds, 646 lbs	1.48		5.7	
Flesh, 9,154 lbs	47.44		8 9	
Wood, 2,010 lbs	15.69	21.6	8.7	

The above shows the grape to be a gross feeder, especially on the side of potash. As compared with citrus fruits it may be said that the grape removes at least a fourth more potash, a half more phosphoric acid, and only about one-half as much nitrogen. There is no way in which the mineral fertilizers, potash and phosphoric acid, can be returned except by direct fertilization. Of the nitrogen it may be said, however, that much saving may be made by growing leguminous crops between the rows and turning them under. The extensive use of stable manure on the grape is not looked upon with favor, as it is said to induce fungous attacks by weakening the vitality of the plant.

A favorable proportion for these ingredients, nitrogen, phosphoric acid and potash, is 2, 8 and 10 respectively. Such a fertilizer may come from nitrate of soda, 100 lbs., dissolved bone 400 lbs., potash, 180 lbs. The potash may be obtained either from the sulfate or the muriate of potash. In California the sulfate is easier to obtain, as it is in common use for fertilizers for citrus fruits. For the grape, however, the somewhat cheaper muriate is as acceptable as the sulfate and carries practically the same amount of available potash. In both of these forms of potash the entire amount of available potash is perfectly soluble, and therefore immediately available for the use of the plant.

The rational application of fertilizers is daily becoming better understood on the Pacific Coast, and there is an increasing interest in the matter. The question as to whether or not it is best to use fertilizers is one that cannot always be determined from a soil analysis, but it is rather a practical commercial one, viz: can we produce enough more to pay for the added cost of the plant food and labor, leaving a surplus for profit. If we can determine this to be the case by experiment, then it matters not what may be the soil composition, it will pay to use the fertilizer to force the growth and crop within the limits of safety to the health of the plant.

In all such work the grower must give particular attention to the physical condition of his soil, for no beneficial results can be expected until the physical conditions are such as to allow the added plant food to have the proper relation to moisture and atmosphere.

There is quite a difference in the practice in purchasing fertilizers in the northern and the southern parts of the State. In the former it is common to order the several simples to be mixed after the idea of the purchaser, which practice is one to be encouraged as ultimately leading to a much more rational use of plant food than where implicit confidence is placed in the fertilizer manufacturer. In the south by far the larger part of the trade depends upon certain brands of complete fertilizers. While generally more certain results can be depended upon from the use of complete fertilizers, those carrying all three of the plant food elements, yet there are doubtless numerous instances where at least one of the ingredients could be cut out and the results obtained not be impaired. Such a knowledge must be carefully worked out, however, by careful trial upon the soil and crop, taking as a basis the draught made by the crop and inquiring of the soil the effect of lessening any one of the ingredients named.

ABSORBENT PAPER TO SAVE PEACHES.

From an eastern exchange we get information of a method of lining cars with absorbent paper, which prevents deposit of moisture on fruit, thus preventing decay:

Strips of absorbent paper are placed along the side and ceilings of cars which are loaded in such manner that the air within the cars has perfect freedom of circulation between the contents of the car and the sides and ceilings. The moisture, that condenses as the ice melts, is taken up by the paper more rapidly than the fruit will absorb it. This has the effect of lessening the falling away of the fruit and causes it to hold up much longer and to reach destination in much better shape. The process and its application is limited to refrigerator cars.

HOW TO GAIT SADDLE HORSES.

An expert trainer of saddle horses has given us the following practical directions for teaching a horse the saddle gaits. Always select the gait you wish to go and make the horse take it; don't allow the horse to decide. Always go into the other gaits from the flat-foot walk. Never let your horse rush away when first mounted, but instead start in a walk. Do not keep him constantly at one gait, but change quite often, otherwise he will soon become adapted to the one gait in which you ride, and practically lose the other gaits.

For a trot slacken the reins a trifle, and steadily take hold of the mane or touch the neck with the right hand, and at the same time rise slightly in the saddle, urging on the horse gently. If he makes a mistake, and mixes, pull him back to walk at once, and repeat the maneuver. For the canter, slacken the reins, incline your body forward, raise your right hand as if to salute, and cluck to the horse. When he starts, take sufficient hold of the reins to pull in his nose and make him arch his neck.

Many highly trained horses will go into the canter at the mere inclination of the body. For the rack, or single foot, tighten the reins and give the bit a number of almost imperceptible jerks, at the same time urge him on with voice or whip, as he requires. If you feel him falter, or as if he was going to change into another gait, slightly shake the bit and urge him on. It is well to remember that this last gait is the hardest of all on the horse; for this reason he should not ordinarily be asked to go at this gait for more than a mile without change.

THE VALUE OF CLIPPING QUEENS.

As our bees are situated amid low shrubbery, where the clustering of a swarm in some inaccessible place would be unlikely to happen, we did not deem it necessary to clip our queens the past spring. The result has been that many of our finest swarms have gone to the woods after being hived, in several instances taking with them valuable queens. In all, I have lost somewhere near $50, as a result of our queens being able to fly. It would have taken one man about half a day to have clipped all the queens in this yard.

At the clipping season there are but a few bees to the hive and the most inexperienced can readily hunt out and clip a queen. It is, in fact, about the easiest work the beekeeper will have. Hereafter all the queens in my yards will be clipped each spring, or as soon as they are mated.—O. J. Farmer.

SPENCER'S HAY PRESSES

The presses for profit.
Hercules 4 tons per hour.
Alligator 22 tons in 10 hours.
Perpetual, small bale, capacity guaranteed greater than any other two-horse Perpetual press made, not forming a larger bale.
We stand ready to prove all we claim
If you want to bale hay cheaply, economically, rapidly and successfully, write for our free catalogue. It gives our test offer.
J. A. SPENCER
Dwight, Ill.

YOUR EASTERN FRIENDS

Should know that the Low Colonist rates are now in effect from Eastern Points to Southern California via the

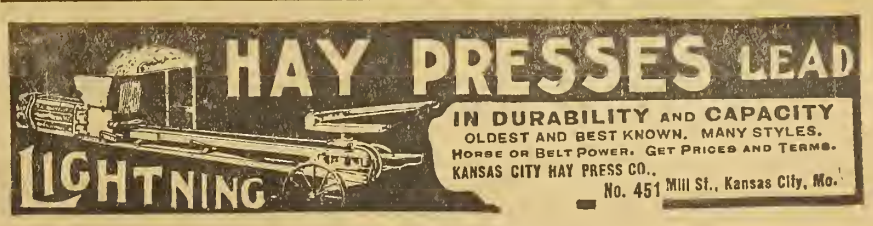
SALT LAKE ROUTE

From Chicago - - $33 00
" St. Louis - - 30.00
" Kansas City - -
" Omaha - - } 25.00
" Council Bluffs and
" Missouri River Points

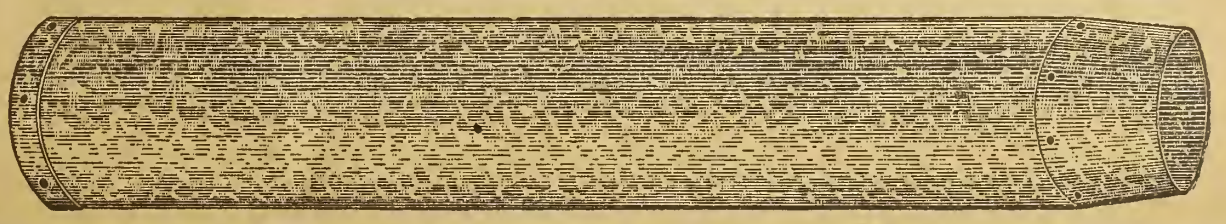
Fast Time — SALT LAKE ROUTE — Elegant Equipment

Through Tourist Sleepers Daily between Chicago, St. Louis, Omaha, Kansas City, Hannibal, St. Joseph and Los Angeles.

Information gladly furnished by any representative of the Salt Lake Route, or by addressing
E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.



When writing advertisers mention Cultivator.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** WRITE FOR CATALOGUE

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Oct. 6, 1905

CONTENTS.

	Page.
Seed Inoculation	315
California Horticulturally	316
Seed Selection	317
Queries and Suggestions	317
Outlook for Citrus Industry	318
Orange Prospects	319
Clipper-Cut Fruit	319
Floriculture	320
General Agriculture	321
Editorial	322
Coast News Notes	323
Lands in Kings and Tulare Co.	324
Mottled Butter	326
Live Stock	327
Be Faithful (Poultry)	328
Poultry Question Box	329
Household	332-333
Markets	334-335

Changing Seed Wheat—The Stockton Mail in an article on the above topic, makes some well-taken suggestions as to the practice of sowing the same seed repeatedly in the same locality—a custom which many of our older farmers have followed for years. What the Mail says as to wheat seed is true as to sowing barley and oats. It is a mistake to crop a given piece of land a series of years without both change of seed and rotation of crops. Back in the Eastern States we never think of anything but rotating crops every third or fourth year, unless it be very rich bottom which will stand corn for a series of years. But out in this country our farmers have no hard and fast rule about seed change or crop rotation. If we are to get the best results from our lands—the biggest yield—we must give nature some of her ways of recuperating her waste energies.

This is what the Stockton Mail says on the subject:

"The seed wheat quest is probably the most absorbing matter farmers, millers and grain dealers have had to deal with. Various theories have been offered as to the cause of the deterioration of the cereal, but so far no plan has been suggested that has been followed to any extent. There is one fact that buyers say is certain, and that is that California wheat is far inferior to that of other States. Oregon and Washington are producing grain that is of much better quality than that grown in this State. It is not because the local soil is worn out, as the richness of California soil is proverbial. The real cause as given by those who have made a close study is that the seed used is not up to the standard.

A mistake that has recently been called to the farmers' attention is that of sowing the same seed repeatedly in the same locality. To sow seed from places where the climatic conditions and the soil are different has proved most beneficial. It is now becoming the custom to plant West Side wheat on the islands or in other parts of the country, while island seed is given the same treatment on the West Side. The change of soil and the slight difference in the climate has produced a very desirable effect. The wheat is stronger and the yield is much better.

Suggestions are being made every month by scientists who are working on the question. The farmers of the present time are following these suggestions and are securing better results. The day of regular routine farming is no more. The up-to-date farmer is progressive and is much more of a student than his father was. Much good has been acquired from the State farm at Modesto, and many things of interest have been brought to the farmers' attention.

Many farmers favor the introduction of the Oregon wheat and are going to plant it next season. The Oregon blue stem wheat contains a large percentage of gluten and is a hardy cereal. It yields abundantly and is exceedingly clean. A sample sack of the wheat which Melone & Perry recently received speaks well for the cereal. Taken from the harvest field it looks as clean as California wheat does after it has been put through a cleaning process. In fact the farmers of Oregon experience no trouble with rust and rank growth. Their wheat is very clean. The blue stem ranks with the Australian variety for milling purposes and is similar to it. Those who have tried the Kansas wheat prefer the Oregon variety. Of course, the Kansas seed contains a larger quantity of gluten, but the color is not as acceptable as the Australian or Oregon. The cereal is red and is slightly smaller than the blue stem.

* * *

What Rockefeller Said—Last week we published in these columns, a purported statement from John D. Rockefeller, in which it was said he predicted hard times for this country in or about 1907. Naturally this statement has the tendency to disturb the public mind and has called from Mr. Rockefeller an explanation of what he did say: This seems to be the simple story.

Talking with a friend a few weeks ago he advised him to "hold on to his money; he might need it in a year or two." The remark was purely personal and meant simply that in the particular matter that person was engaged in he would be able to use his money by keeping it on hand for an opportunity certain to arise than if he invested it now in anything outside. This advice lost nothing when it passed beyond the person for whom it was intended and was soon perverted into a general warning for everybody to trim sail. It is well to have the perversion promptly corrected.

There are no clouds on the commercial horizon. The well advertised weaknesses and abuses among the big insurance companies of New York afford a pretty good test of credit and confidence. In shaky or uncertain times such revelations would be almost certain to usher in a panic. Such would have been the case if conditions were like those of 1873 when excessive railroad building had strained the credit system to the breaking point and the failure of Jay Cooke & Co. was simply the last straw. So in 1893 failures and troubles fell upon a soil fruitful of panic. The continued coinage of silver threatened a dislocation of the standard of value and under such circumstances the bad times harvest was white for the reapers. Little time was lost between the first alarm and the breaking of the storm.

Conditions are radically different now. Credit is not overstrained. Even the great insurance revelations do not affect it. The money standard is beyond assault. Buttressing all this is the tremendous fact that the United States is passing from among the debtor nations of the world to the creditor class. Dangers which have menaced this country heretofore must now become fewer and far less potent for evil. The general situation is radically different from 1873 or 1893.

Like the poor we have always with us one danger—tariff smashing. Every tariff revision ever made in this country in a downward direction and against the principle of protection has produced a panic. As the great business and labor interests of the country see this fact standing out in ominous distinctness they are throwing their power against such useless and dangerous agitation and uncertainty.

It does not follow, says the Des Moines Capital, because Rockefeller has amassed the biggest fortune in the world by Standard Oil methods that he is an exceptionally good judge of general conditions, but his business extends throughout the civilized world and he is in touch with conditions that could hardly fail to give him early premonitions of any rising commercial storms. That is what made the first report of his alleged fears so disquieting, just as it now gives solid satisfaction in the correction and contradiction.

* * *

Common Sense Spraying.—A writer in the N. W. Horticulturist makes the point that "much of the spraying done on trees gives no results, because it is not done with any degree of intelligence. The sprayer simply goes over his trees, in a perfunctory sort of way, not knowing how to do his work nor caring, in some cases, whether the work is well done or not." This is certainly true. We know it because complaints come to the Cultivator of spraying done in orchards which is vastly injurious, in some cases blighting the fruit and burning the foliage until it drops off. We have an example of this careless work of the sprayer before us now. One side of the fruit is blighted, while the foliage is yellow, showing that the compound used was too strong. There was no intelligence exhibited by the sprayer, either in mixing his material, nor in the method of its application. Thoroughness is necessary, vitally necessary, but carelessness is criminal.

An operation can always be more intelligently performed if the reasons for doing it are thoroughly understood. This is emphatically true of spraying. If the operator does not know what he is spraying for and why he is doing it, it is merely an accident if his efforts avail anything. It is not necessary that he know the name of every disease or the complete life history of every insect, but it is essential for him to know their vulnerable points and the treatment that will reach them.

To spray an orchard simply with no idea of what is needed to clean it, is a dangerous proposition. Before going to work on an orchard, to clean it of fungous diseases, or if insect pests, some well informed horticulturist ought to inspect it to ascertain what is necessary to get the best results. It requires experience and knowledge to know these points and to meet them as the exigency of the case requires.

Spraying for fungous diseases is largely a preventative measure, not a curative one; hence their coming must be anticipated. This likewise applies to some of the insect pests. Spraying should therefore be looked upon as an insurance of the crop. Such efforts will not give the same proportionate returns every year, but the appearance of destructive disease and insects of some kind may be expected every season and it is not often that they fail to come, so that efforts put forth in anticipation are seldom lost.

We recall hearing Frederick Maskew, the apple growers' authority in the southern part of the State, say, "the effect of spraying is, in a measure, cumulative." That is, he meant, we suppose, the benefits are not all manifest during the season that the application is made. Especially is this true of plants which form their fruit buds the previous season, which is the case with many of the fruits. An apple tree, for instance, which is seriously attacked by insects or loses its foliage from disease, is not likely to properly mature its fruit buds for the next season's crop, whereas a tree that is perfectly healthy will, under normal conditions, perfect its fruit buds for the succeeding season.

Thoroughness is an absolute essential. Negligence in this direction is the cause of a large proportion of the failures to obtain good results from spraying.

* * *

The Good Roads Problem—The time when work can be done to advantage on the public highways is about over for a while. The heavy rains of last winter left many of the cross roads, and indeed, the main roads, in very bad condition and this summer, for some reason they have not been repaired to the extent they should have been.

Who is to blame for this neglect? We certainly expend money enough in California to have a good road system. What is done with it? The Boards of Supervisors throughout the State have the road fund in their keeping, they make the contracts for road repairing and the people look to them for results.

Before this time every main road in this, and, in fact, all the counties of the State should have been leveled up and oiled, sanded and oiled a second time, so that when the rains come this winter, they may be made hard and useful for next year. Some months ago the Cultivator called attention to the system of cheap and excellent road making in vogue in the State of Missouri. It consists of a drag (without teeth) of sufficient weight to level off the road; used before a rain it puts the highway in order and after a rain it fills the uneven places and makes an excellent, durable summer road.

This, or some other device could be used to advantage on the roads in the county districts while the Supervisors are waiting for money to oil them.

We certainly spend too much money for roads which we do not get. There ought to be a general upheaval of the people in the interest of better roads. If we are to fill the country with desirable people we must give them highways to and from the towns in their locality.

Goods roads to market are imperative. The farmer will locate where these are at command.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The Redlands Orange Producers Co. will erect a packing house seventy by one hundred and forty-four feet, at a cost of $8000.

The grape crop was somewhat damaged at Grass Valley last Friday by a very heavy frost, accompanied by a slight snowfall.

The State horticultural officials are figuring on the erection of a new building in the Capitol grounds to be used as an insect house for the culture of parasites beneficial to fruit.

B. G. Johnson, superintendent of the date farm at Mecca, will leave shortly for the Persian gulf to secure cuttings of the date palm for propagation at the date farm.

The date trees at Hanlon's Heading, in the Imperial country are now being picked of their annual crop of dates. They are of an unknown variety, but of excellent quality.

Some of the grapes in Sonoma county are showing very heavy per cent of sugar, going as high as twenty-three per cent. Zinfandels are bringing $20 with the premium on Petit Bouchet.

The walnut crop in the El Monte section is to be greater this year than ever before and with the price of thirteen cents per pound for the best nuts the section will have a very prosperous season.

Very heavy shipments of grapes are now being made daily from Folsom. Reports of the sales in the east are to the effect that grapes are bringing good prices which is stimulating shipment and making the growers prosperous.

Sixty tons of apples is the product of the Alexander Lamenton orchard, which is 6000 feet above sea level. The entire crop will be sold in Redlands this year, and it will amount to a goodly store of cash.—Redlands Citrograph.

An innovation this year at the Santa Anita Ranch east of Los Angeles is the canning of grapes for the market. The packing house at Arcadia has been utilized for the cannery and is turning out large amounts. This ranch has seven hundred acres devoted to grapes and the crop is excellent this year.

The Rialto Citrus Union held a meeting Saturday and elected officers for the coming year. The Union, with the Hand Fruit Co. of Riverside, jointly own the packing house formerly occupied by the Fruit Exchange and will proceed at once to double the size of their house and equip it with the latest improved machinery.

The Highland Fruit Growers' Association, at a meeting held last week, gave the contract for packing and shipping to the California Citrus Union. This association controls something like one hundred and twenty-five cars of citrus fruits and the Messenger of that place states that the Union will this year put out close to two hundred and fifty cars.

The deciduous fruit growers in Tulare and Kings counties are closing up one of the most prosperous seasons they have ever had. The reports from the Earl Fruit Co of fruits shipped from that district showed that an average of $1400 to $1500 per car was obtained for peaches which was between $400 and $500 above the average price. These prices mean that the growers receive from $40 to $50 per ton net.

The Marysville Appeal says that some of the growers are still shipping their Thompson seedless grapes, as the prices still remain fairly good, and are running the risk of drying what remains of their crop before the rains set in. There is a strong, brisk demand forming for bleached Thompson seedless raisins at from 9 1-2 to 10 cents or 8 cents and better in sweat boxes. Standard Thompson seedless are being quoted at 7 cents, choice at 8 cents, fancy at 9 cents and extra fancy at 10 cents.

A Cultivator representative writing from Watsonville says that the Pajaro valley is gathering the largest, finest crop of apples that has been had for many years. The apples are sound and good. The crop is so heavy that many trees are broken down and in some instances ruined. The shipments out of the valley have averaged about thirty cars a day since the season opened, making over six hundred cars so far this season. Regarding the stock interests, he says they are in a very flourishing condition.

AGRICULTURE.

The sugar factory at Chino has sliced over 25,000 tons of beets so far and has fully as many more to slice before the season is completed.

The hay crop in the Ukiah valley will be about fourteen hundred tons this year, which is less than last year's crop, owing to the fact that a large amount of grain was threshed.

The Lima bean harvest is in full blast with twelve threshers in operation in this valley. The county crop is estimated at 400,000 bags, which is very close to the record, and the price is expected to be good, many lots being contracted for at 3 cents.—Santa Paula Chronicle.

The second crop of melon vines planted in the Coachella valley is doing fine and full of young fruit. Prospects are that there will be a good supply of this fruit at the time of the year when they usually are very scarce. Asparagus from this valley is now in plentiful supply from the second crop.

At the annual meeting of the San Gabriel Farmers' Club at Alhambra Saturday the following officers were elected: President, Dr. F. E. Corey; vice-president, Major E. A. Routhe; secretary, H. E. Lawrence; treasurer, Mrs. A. C. Wheat. The meeting was addressed by C. A. Day, of Pasadena, on the subject of improvement of roadways.

Sixty leading canteloupe growers of the Imperial valley met near Brawley and contracted with Lyon Bros. of Chicago to handle their crop for next year. The contract contemplates the shipping of a car or two of melons weekly during the entire season. One thousand pounds of seed are to be brought in from Rocky Ford for the planting next spring. It is estimated that about one thousand acres will be planted at Brawley and that a trainload of cantaloupes will leave daily during the height of the season.

From the sales made last week, both in Oregon and California, it would look as though the hop growers are afraid of the market and that they could not hold together to secure the price which well-informed producers think they ought to have. Instead of getting twenty cents per pound, as it was thought hops would command, several sales have been made at from ten to eleven and twelve cents, which is very nearly bed rock for the grower. As the crop is short and the world's supply also short, it is thought that the market will be good for twenty cents, at least, before the first of the year.

The Dinuba Advocate is responsible for the following story: George Bence, who is engaged in farming on a portion of the old Buckman place, three miles north of Exeter, raised two hundred sacks of yellow Danver onions on a half acre of ground this season, a sample of which may be seen at the rooms of the Tulare county Board of Trade in Visalia. The sacks will average about 100 pounds each and Mr. Bence received not less than 1 1-2 cents per pound for the onions, as they have been sold at retail by the storekeepers at Exeter for 2 cents per pound, so his returns from that half acre of onions amounted to $300.

LIVE STOCK.

E. W. Crook of Lincoln is building up an extensive squab plant and hopes to find a ready market at San Francisco for all that he can produce.

The largest shipment of fresh meats ever made to the far North was sent from San Francisco last week. The shipment consisted of fifteen carloads of mutton and beef.

The fair at Hanford next week, from October 9th to 14th, promises to be one of the best ever held in that section. Poultry and live stock exhibits will undoubtedly be good and the race track promises to be fast.

About one hundred cans of milk are being shipped from the station at Buena Park to Los Angeles daily. These shipments are made owing to the fact that the condensing plant there is practically closed for repairs.

One of the interesting features to stock men at the Hanford fair, next week, will be the auction sales that will be held daily. These sales will commence just after noon each day and before the racing events of the afternoon.

The Pacific Creamery Co. at Buena Park, better known as the manufactuerers of the famous Lily Cream, is making many needed repairs to its factory and expects by the first of the year to be in a position to do bigger business than ever.

J. B. Haggin, the famous fast horse man, has announced that he will sell his fine strain of racers. It is further announced that his place, Rancho Del Paso, near Sacramento, is likely to be divided and disposed of. The ranch is supposed to be worth fully $1,000,000.

The Clarence Berry ranch, consisting of twelve hundred and seventy acres of reclaimed land of Roberts Island in the San Joaquin river has been sold to four Humboldt county dairymen; consideration, $90,000. It is announced that the purchasers will divide the tract into quarters and will make great dairy ranches of the place.

Fred Jennings, a prosperous rancher living near Lemoore discovered a can of poisoned wheat in his granary a few days ago that he had used in poisoning squirrels, and believing that nothing would kill a hog, dumped the contents into his hog pen. The result was four fat porkers turned up their toes and many others are feeling the effects of the dose.—Lemoore Republican.

MISCELLANEOUS.

The long hoped for local Weather Bureau Service began actual operations at San Jose last week.

Paso Robles has let the contract for the municipal bathhouse, to cost $14,139, which is to be completed by February 15th.

The State Board of Forestry met at the office of the governor at Sacramento Saturday and decided to offer the position of assistant forester to T. P. Lukens, of Pasadena.

The San Luis Obispo Polytechnic School has started out this year with an attendance of eighty-eight students, as against thirty last year, and more coming from all parts of the State.

A meeting of the Coachella Valley Producers' Association is to be held Saturday, October 7th, for the purpose of considering the proposition of purchasing the plant of the refrigerating company at that place.

Hatfield, the so-called rain-maker, will commence this season's operations in the San Gabriel mountains about November 1st. He proposes to produce a precipitation of eighteen inches of rain the coming season.

A seventy-three acre tract of land in Riverside county has been bought by th Santa Ana Valley Irrigation Co., and the Anaheim Water Co., for a consideration of $8000. The land is water-bearing and will considerably increase the water supply of these companies.

A great artesian well was struck at a depth of 1700 feet on the Nailor ranch, twelve miles south of Corcoran, Kings county, last week. When the vein was struck the pressure of gas and water forced a column of sand and water to a height of two hundred feet above the surface.

The annual meeting of the State grange of the Order of Patrons of Husbandry is being held at Napa this week. There is a large attendance of delegates fram granges over the State, besides a large number of visitors. The annual reports show a large increase in membership during the past year.

Citizens of San Jacinto and Hemet and surrounding territory have asked Senator Flint to use his influence to secure an oppropriation of $3,000,000 from the U. S. Reclamation Service to build a dam in the San Jacinto canyon, Riverside county, which would irrigate about fifty thousand acres. The plan proposes the absorption of the San Jacinto and Hemet water systems and the merging of all irrigation interests in the region for a radius of twenty miles.

Rich Lands in Kings and Tulare Counties

A District of Magnificent Possibilities for the Agriculturist, Horticulturist and Stockman. The Most Fertile and Productive Section of Central California, where Sixty Varieties of Products are Annually Produced and Sent in Carload Lots to the Markets of the World. By J. J. Steadman.

Some weeks since the editor of this paper made a tour of inspection of the region, now so much talked and written about, and known to the public as the Kings and Tulare Lake district, situated in the heart of the San Joaquin valley, on the main line of the Atchison, Topeka and Santa Fe Railroad.

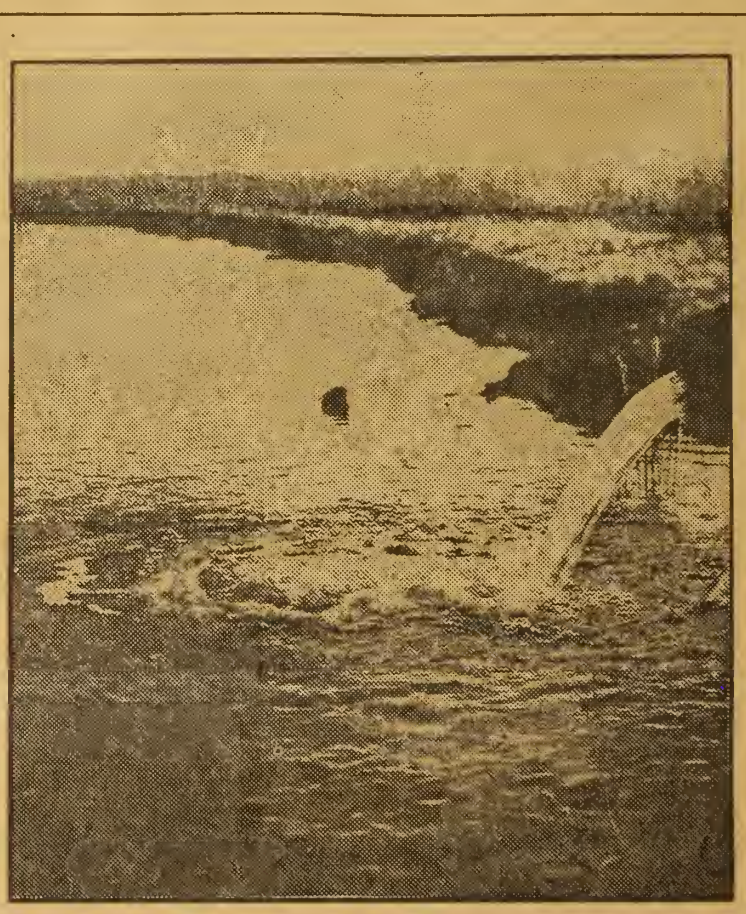
Much has been written of the marvelous possibilities of this country, within the past twelve months, but to comprehend its development, what is being done there today by the men of brains, energy and wealth who are "creating a new empire," under the most favored conditions which could fall to the lot of tireless pioneers, so to speak, one must, for himself, ride the region over, and with pencil and book note the wondrous strides of progress being made by the army of people today employed in transforming a vast region of 750 square miles of virgin soil into a veritable farmers' paradise.

Let me remark in passing, that among the hundred or more leaders of this mighty army of agricultural workers, H. J. Whitley of Hollywood, known far and wide as the "wizard" promoter of this decade, is at the forefront. It was he who, about a year ago, went over this country, examined its condition, took note of the wondrous richness of its soil, its equitable climate, the exhaustless source of its water supply, its proximity to the markets of San Francisco and Los Angeles, and determined that here should be founded a model town, the appointments of which shall rival the most beautiful city in the commonwealth of California. To his aid he summoned a coterie of experienced town builders and country developers who have been associated with him at Hollywood and elsewhere for years, and organized under the name of the Security Land and Loan Company, purchased as a nucleus for their operations and adjacent to the S. P. R. R. about twenty-five miles along the Santa Fe of the Tulare Lake lands, and upon these lands are working a transformation which may best be understood by a visit of inspection.

* * *

Climate.—To begin with, this region, located at the base of the Sierra range of mountains, has a most even and healthful climate. The annual mean temperature as compiled by Prof McAdie, for the U. S. Department of Agriculture, for three years past, shows 61.9, a temperature conducive to best results for agriculture, health and comfort. There is no frost to interfere with seed time nor the harvest. There are no driving rain storms to wash away the crops when grown and, with the exception of about three months of the year, July, August and September, will the daily temperature suggest to one the comfort of the shade of the gorgeous Umbrella tree or the graceful and luxuriant Elm, or Maple. Sunstrokes are unknown, diseases incident to the climate of the Middle West never appear in this locality, and as a result of the dry, bracing air, pulmonary complaints, throat troubles, asthma and kindred affections soon pass away from those who come bringing any one of them as legacies from the hot, humid climate of the East.

Statistics covering a period of ten years back demonstrate the mortality rate at 6.4 per thousand, while the birth rate shows one of the most productive regions on the Pacific Coast. Under the genial sun the farmer plants and always reaps. Some years in greater quantities, of course, than others, but never fails, because there are no contending elements nor unfriendly climatic conditions to conspire to destroy the fruit of his labor. We have been all over California, coming in at the north, going out at the south, criss-crossing the country over its mountains and through it fertile valleys and in all our ramblings we have found no place where the farmer can make as much money with as little labor as here in the San Joaquin valley, in the region of which we are writing.



Artesian Well Flowing into Reservoir. Has Been Flowing Twelve Years.

* * *

Wondrously Rich Soil.—We remember reading an article, a few years ago, from the pen of a distinguished eastern journalist who, in describing the soil of the San Joaquin valley, said it consisted of "one part earth and ten parts manure, and in that proportion was one hundred feet deep." Of course this was not literally true, but it was a statement which has enough of merit in it to challenge the attention of prospective buyers of California farm lands. The soil embraced in the region of which we write is of a peculiar character. It is composed of a deposit of sediment, tule roots, shells and silt, left by the receding waters of Tulare lake, which, according to the Government reports of 1880, covered it for a distance of several hundred square miles. You may dig down for twenty feet and this same peculiar soil confronts your operations. In point of richness, in producing power, the famous valley of the Nile is not its superior. You may crop these lands for fifty years incessantly and they will show no diminution of the elements which bring forth wheat, corn, alfalfa, in fact all the cereals in such amazing and satisfactory quantities. The grain fields in this territory in 1904 produced 60 bushels to the acre, while crops in certain portions of the tract went 76 bushels to the acre. The fact is that in grain producing quality and quantity the fields of the Tulare Lake region have startled the entire Pacific Coast and challenged comparison with the richest wheat producing sections of the whole world. Then there is alfalfa, the stockman's goal of prosperity. In 1904 from seventy-five acres, E. G. Sellers, of Lemoore, cut 300 tons of alfalfa hay from which he netted $1500. L. P. Denny, on a ranch of 300 acres, situated six miles south of Corcoran, Tulare lake section, in 1901 put up 1200 tons of first-class hay, also 5½ tons alfalfa seed, from 100 acres, of above. During winter of 1901-1902 pastured 300 head of cattle and 150 head of hogs thereon. Summer season of 1902 cut 300 acres alfalfa once and got 700 tons of hay. Pastured 400 head of cattle and 200 head of hogs remainder of that season and following winter. In 1904 this ranch increased its cattle and hogs and turned out approximately the same tonnage and seed tonnage.

I could multiply these instances of grain and hay production unlimitably—but it is not necessary. The potential fact remains, when all is written of this marvelous section, that it has no superior on the great Pacific Coast States.

* * *

The Stockman's Mecca.—I wish I could have had with me some of my stock raising friends of Iowa; men who, for thirty years, have done nothing but raise corn, where 40 bushels to the acre is an average big yield, where timothy and clover freeze out about every third winter, and where it costs today more than a third of what their cattle and a fourth of what their hogs bring in the market to finish them—I wish I could have had some of these men with me, as I rode through big herds of fat cattle and shiny porkers, to which never a pound of grain has been fed. Wouldn't I have made them turn green with envy? Why, last year, in Kings county alone, the shipping records show that nearly 800 carloads of fat cattle were shipped to the markets of San Francisco and Los Angeles. What may we not expect from this region when all the territory is occupied, as it will be in five or ten years, and men devote themselves to raising and shipping cattle and hogs for the markets of the world. Hogs of as fine class as any of our eastern stock are grown and fattened with almost no expense. They simply grow up, grow fat on the waste products of the soil, roll into the market and "roll the mortgage from the farm." The dairy industry in itself is an interesting proposition in such a country. The Kings county creamery alone paid the dairymen, last year, who sold it milk, $120,000. In Tulare county the record was about the same. The advantage the stockmen of this section have is in the absence of the diseases to which cattle and hogs in the East are subject. They mature their calves and pigs, they feed them on the richest of fattening grasses and hay, and get as much for them in the market as their brothers do who produce beef and pork at double the expense.

Great is the future of the Tulare district stock raiser. No wonder they wear diamonds and ride in autos, as the rancher did who whirled me over the country and shouted the praises of the San Joaquin valley until my head swam and I longed to be one of the "boys" again, astride a broncho, chasing the bounding steer.

Then there is the sheep industry. The annual clip of wool from 200,000 head of sheep brings in over $137,000 to Kings county. Tulare is in about the same proportion. The poultry interest comes in for its abundant share of credit in making prosperity for this community. It is a paying business, aided as it is by the equitable climate, which is conducive to the health of poultry.

* * *

I come to what appeals to me as the

potential factor in the development of this new region, and I may sum it up three words:

* * *

Magnificent Water Supply.—From eight to twelve feet the water plane underlying this whole section is reached. It comes down the shed direct from the Sierras, whose snow capped summits furnish never ending streams of pure snow water, which pour down into the valley and are lost in the sediment and silt soil miles from their source. It is this under-ground supply of soft water which furnishes the key to the prosperity of all this section. It is ever present, never ceasing, always to be had at command. Bore a well anywhere on the 35,000 acres of land in the Tulare Lake district and you will find water. This is the secret of the vast grain and alfalfa returns, which astonish the country. It is the secret of every success which comes to the prosperous farmer in all that region. At 650 to 900 and 1100 feet you strike the gushing artesian well, the water from which, when under pressure, spurts into the air a distance of four to twelve feet sending out such a volume as will irrigate without difficulty, a quarter section of land. Wells sunk at a depth of 60 to 150 feet furnish abundant water for irrigating small ranches at a very moderate cost. So it will be seen that the question of water does not disturb the people of Kings and Tulare counties, whose future along this line is amply secure.

* * *

New Town of Corcoran.—Along the western part of this newly developing section a nice town is in process of construction. Although not over sixty days have passed since it was laid out, several hundred thousand dollars in substantial improvements in and around the town are under way. Within twelve months the visitor will see one of the most up-to-date farmers' towns in California, equipped with every appointment essential for the comfort and pleasure of a prosperous people. Parks, boulevards, electric lights, fountains, wide avenues, brick and stone buildings, churches, school houses, bank, newspaper and commercial houses for general purposes, will stand out against a background of green foothills, a picture of beauty and an ever present reminder of the energy and ability of the men who have builded it. But of this new city, with all of its thrift and beauty and enchantment, we can not speak further at this writing. At a later day it and the fruit interests around it, will call for extended comment. Great things "are doing" now in this Eutopia of the Golden State. The men who, by their brain and energy, are building up a new enterprise on the waste of a once great lake, will create a monument to the genius of their spirit to which future generations may point with splendid satisfaction. Of such men was the Republic builded.

* * *

Some Data.—In a circular issued recently, the Security Land and Loan Company make the following statement relating to agricultural interests in the Tulare Lake District country. We quote:

"This is a section of intensive and diversified cultivation made possible by the rich soil, constantly-stimulating sunshine and plentiful water supply.

Peach orchards frequently yield from $40 to $100 net per acre. Vineyards produce from $60 to $120 per acre, and many wheat fields yield from 25 to 60 bushels per acre.

Kings county stands in the front rank as to variety of products grown in sufficient quantities to be shipped in carload lots—56 distinct varieties being the record for last year.

The following list of products of the soil gives an idea of the comprehensive possibilities:

An Artesian Well Near Corcoran.

Diversified Products Shipped From Kings County.—Alfalfa hay, alfalfa seed, almonds, apricots (green and dried), apricot pits, assorted canned fruits, (apricots, peaches, nectarines, plums and grapes) barley (ground and whole), barley hay, bees, beans, bran, brandy, bucks, bulls (breeding), calves, cattle (beef), corn, cows, (dairy), dairy products (butter, cheese and condensed milk), flour, grape cuttings, grapes (green), hides, hogs, horses, honey, mules, peaches (dried and green), peach pits, pears, plums, potatoes, prunes, raisins (loose and seeded), sheep (mutton and range), trees (nursery stock) wheat, wheat hay, wine, wine pomace, wool.

A Bunch of Kings County Porkers.

* * *

BEET SUGAR ENTERPRISE.

In the Los Angeles Times of August 5, 1905, appears the following in reference to the beet sugar industry:

"Another regular source of income for the small farmer will be provided by the beet sugar factories. One of these is now in course of erection close to Visalia, and others are projected, for experiments have proved that beets of the finest sugar-producing quality can be grown throughout Tulare and Kings counties. Moreover, owing to the length of the season in this sunny land, delivery of beets will be possible from June to October, a run of five months. The factory at Visalia will contain the most modern plant, and its capacity will be 300 tons per day. Contracts with beet growers are now being arranged—that is to say, the farmer will have the guaarntee that all the beets he grows will be taken off his hands at a fixed price for a series of years. In a district where there is such diversity of products there is little chance of the beet grower being ground down to an unremunerative figure, and such factories will exercise a healthy stimulus in competing with the wineries for the acreage available. Thus the city of Visalia has shown judgment and foresight in freely donating forty acres as the site for the first beet sugar factory, while the individual citizens have given the very best proof of local faith in the enterprise by subscribing $50,000 of bonds. When communities come forward in this way to help themselves, the confidence of capitalists is strengthened a hundred fold.

* * *

The Problem of Foothill Irrigation.—It has already been mentioned that, while a number of the citrus belt orchards are irrigated with ditch water, most of them depend exclusively on pumping. As regards subterranean supplies, the general proposition holding good throughout the length and breadth of Tulare and Kings counties is that you may bore a hole anywhere with the absolute certainty of striking water. Splendid rivers, indeed, have their courses over the surface of the soil, and with their network of irrigation channels cover the land like the venation of a leaf. But still vaster bodies of water flow continuously underground from the mountains towards the great central depression of the country, the old Tulare Lake bed. Along the foothills good irrigation wells can be got at a depth of from 50 to 60 feet.—Los Angeles Times.

* * *

THE PROLIFIC HOG.

Every successful farmer in the Middle West knows what a good hog is, and the country where swine will do well and grow to perfection and grow fast takes his eye. Well, among the fifty-two articles of products shipped out of Kings county by carload lots, is the hog. From Hanford during the last year four hundred carloads of fat hogs were shipped. These hogs were raised on alfalfa, skim milk, whey, pumpkins, barley, wheat and corn. The breeding of thoroughbred swine is becoming general and the favorite breeds are Poland China, Berkshire, Durocs. The black or brown hog does the best here, and stands the climate and thrives. The 400 carloads referred to here and as the output from Hanford the past year, averaged 17,000 pounds to the car, making 6,800,000 pounds, and the average price paid to the farmer was 5½ cents, which would bring the total amount to $374,000.00, for hogs shipped from the Hanford station alone. We have not the data from Lemoore, Armona and Guernsey. —Hanford Sentiuel.

* * *

REFUND TO PURCHASERS.

In June an important decision was made in the Supreme Court, whereby $71,000 will be refunded by the county treasurer to purchasers of 137,000 acres of lake lands. A number of suits have already been brought to trial, and in each case a writ of mandate has been issued in favor of the plaintiff and against the county treasurer.—Hanford Journal.

About twenty thousand eastern brook trout has been planted in Middle Tule river, Tulare county.

For Information Concerning the

Kings and Tulare Lake District and the new town of Corcoran

Address the

Security Land and Loan Company

Home Offices: Home Savings Bank Bldg., Los Angeles, Cal.,

or, L. S. Chittenden & Co., Hanford, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

THE MOTTLING OF BUTTER.

The general teaching of today about the mottling of butter is well summarized by Mr. H. Hayward in circular 56 of the department of agriculture, bureau of animal industry, entitled "Facts concerning the history, commerce and mnufacture of butter;" and we quote from this circular: "One of the serious defects often found in butter is lack of uniformity of color, or what is commonly known as 'mottles.' This defect is seen in white streaks, spots or blotches, which are most pronounced when a lump of butter is cut so as to show a broad, smooth surface. If this cut surface is held at a proper angle to the light, any lack of uniformity in color will be plainly noticed. So serious is this defect considered that butter otherwise perfect, but mottled, is graded as second class in the large markets. The causes to which this fault can be attributed are, first, particles of curd, differing in size, incorporated in the butter, and second, an uneven distribution of salt. Mottles in creamery butter are seldom caused by specks of curd, but in the poorer classes of dairy butter this kind of mottles is not infrequently seen. They are most likely to occur when the cream from which the butter is made is thin and allowed to ripen without being stirred, or when it is over-ripened without being strained. The cream being churned under these conditions, lumps of coagulated cream are incorporated in the butter, and as the casein does not take the butter color the result is a product full of white specks. When the trouble is caused in this way it can be obviated by washing the butter twice in a weak brine after the buttermilk is thoroughly drained off. After the last washing, instead of draining the brine from the butter, as is usually done, the butter should be dipped out of the brine with a hair or wire sieve; the specks of curd, being heavier than butter or water, will have sunk to the bottom of the churn.

"Most of the mottles found in butter, however, are caused by an unequal distribution of salt. When the wash-water is considerably colder than the butter granules the exterior of the latter become harder than the interior; this prevents an equal absorption of the salt when the butter is salted and worked, and mottles result. Also, when thin cream is churned at a low temperature the butter usually comes in round, shot-like granules; on account of being round and quite firm it is with difficulty that the salt is equally distributed and, unless great care is exercised, the finished butter is mottled. Of course, if under the most favorable conditions the butter is not worked enough to distribute the salt equally, mottles will be noticed in the finished product.

"Mottles may be prevented, then, by avoiding high temperatures in ripening cream, by frequent stirring during ripening, by straining the ripened cream into the churn, by avoiding exposure of the butter to temperatures too low while in granular form (which causes a difference between the interior and exterior of the butter-granules) and by working the butter sufficiently to cause an equal distribution of the salt."

It is very noticeable that in all the dairy literature which has come to hand there is no suggestion that the proteids present in the cream have any connection with mottles in butter, except the single form which comes from curdled casein specks or particles; but this form is of so infrequent occurrence, compared with the other form, that many teachers do not apply the term mottles to the discoloration caused by curd particles. It is to the other form of mottles that we have given our attention, that is, the form characterized by light-colored streaks, waves or large patches. It should be stated that Prof. C. F. Doane of the Maryland agricultural college considered the relation of casein (casein lactate) to mottled butter but concluded that this proteid had no relation to the light-colored streaks of mottled butter.

Prof. Storch appears to attribute the formation of mottles to an excessively large number of minute liquid drops of what he calls "water mucoid substance," the difference in the size and number of these liquid drops being caused by the action of special microorganisms during the ripening of cream. This theory lacks satisfactory demonstration and has not been received with favor. Much valuable information on the subject was recently gained through the New York Produce Review sending out a series of questions and securing replies from many of the most prominent teachers of dairying in the country. It is impossible, for lack of space, to give the information in full, but good summaries are given herewith following each question:

Does mottling of butter occur at one particular time of year more than another? If so, when and why? In most cases it is reported that mottling occurs more frequently in cold weather, because it is more difficult to distribute the salt evenly through the butter, owing to the lower temperature of the wash-water and the greater firmness of the butter.

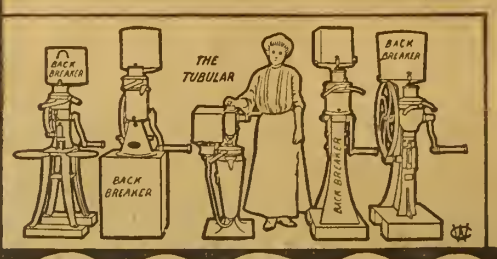
What different kinds of mottling do you recognize? There is considerable variation in the replies made to this question. Summarizing all the different statements, the question is answered as follows: (1) An uneven distribution of color showing in small patches, (2) streaking or wavy mottles, (3) white specks, and (4) dapples. In most cases the expression indicates only one kiud of mottling but varying in form and showing as streaks, waves or cloudiness.

What do you regard as the cause of mottling? Every reply indicated the uneven distribution of salt in butter as the chief or sole cause of mottling.

TUBULAR--or "Back Breaker?"

When you see the waist low Tubular you can't be driven into buying a back-breaking, "bucket bowl" separator. **Can and crank are just the right height on the Tubular.** Here is the largest Dairy Tubular along side four "back breakers." The girl with her hand on the Tubular is 5 feet, 4 inches tall. This is an exact reproduction from a photograph. **Which kind for you?** Makers of "back breakers" try to get their cans low by setting the cranks low. **High cans** break your back backward—**low cranks** break it forward. Unless you are a double jointed giant, you'll find a high can is no joke. To show you how high these "back breaker" cans really are, when the machines are set high enough to turn easily, we raised these "back breakers" 'til their crank axles were level with the Tubular crank axle. "Back breaker" makers don't like this picture—**it's too true.** They try to squirm out of it. **You wouldn't like turning cranks as low as "back breaker" makers put them.**

The low can is only one of many advantages Dairy Tubulars have over all others. Dairy Tubular bowls are simple--"back breakers" are complicated. Tubulars are self-oiling--no oil holes to fill up. "Back breakers" are oil drippers and oil wasters. To learn a lot more about Tubulars, write today for catalog N-260



The Sharples Separator Company
West Chester, Pa.
Chicago, Ill.
Toronto, Can.

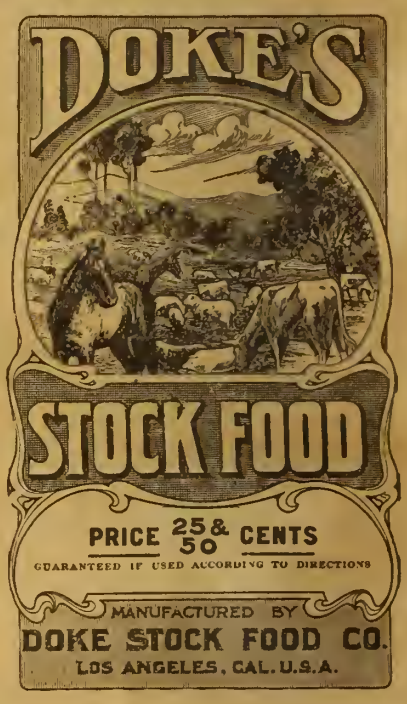
Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory
322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.



CLIFFORD'S ANTI LUMP JAW

Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing "Clifford's Anti Lump Jaw"—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.

Our Hog Cholera Remedy is guaranteed to cure. Send $1.00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.

Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our Chicken Cholera and Roup Remedy will cure all diseases that the feathered fowl is heir to.

CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. J. E. FISHBURN W. C. MARBLE, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE **DE LAVAL SEPARATORS**

we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.

DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

When writing advertisers mention Cultivator.

Additional or contributory causes are given as follows: (1) Uneven cream-ripening, (2) pasteurizing sour cream, (3) insufficient working, (4) chilled granules worked too soon.

Has ripening of cream anything to do with mottling? If so, how? The general opinion is that cream-ripening has no relation to the mottling of butter, except that white specks in butter are often caused by over-ripe cream.

Does the temperature of churning influence mottling? The general belief expressed is that churning has little or nothing to do with mottling. The following special suggestions are made: (1) Some temperature conditions of churning make difficult the even distribution of salt and so contribute to mottling. (2) Too low or too high churning temperature may interfere with proper working of butter and consequent distribution of salt. thus favoring the formation of mottles. (3) If butter is made too hard the salt cannot be easily distributed uniformly. (4) Over-ripe cream churned at too high temperature produces mottles. Summarizing these statements, it is the prevailing belief that the temperature of churning may affect the mottling of butter, when the uniform distribution of salt is made difficult, especially churning at low temperature.

Does the temperature of the wash-water influence mottling? Some state that the temperature of the wash-water has no influence upon the mottling of butter. Several hold that the use of water so cold as to harden the butter considerably would cause mottling by preventing the uniform distribution of salt. One states that mottles are produced whenever the wash-water is colder than the butter. Another claims that mottles are unusual when the wash-water, salt and butter are of the same temperature.

Does the size of granules influence mottling? The general belief expressed is that there is no relation between the size of butter-granules and mottling. One states that large granules, when hard, favor mottling; but, when the butter is soft, the size of granules makes no difference. Two state that small granules are preferable since large granules favor mottling.

Does salt influence mottling? The expression is unanimous that the uneven distribution of salt is the chief, if not the sole cause of mottling.

Has the butter color used anything to do with mottling? All state that butter color properly used is not, in their experience, ever a cause of mottling.

Can you effectively control the mottling of butter? If so, how? Summarized in the briefest expression, the belief of all is that mottles can be prevented hy proper working of butter, that is, by effecting a complete and uniform distribution of salt through the mass of butter. Described in more detail, the even distribution of salt and the resulting control of mottles can be accomplished by churning between 52 and 55 degress F. to granules the size of wheat grains, drawing off buttermilk, washing once with water below 50 degrees F., draining, salting and allowing to stand 2 to 4 hours before working.

What is your theory in regard to the mottling of butter, that is, the causes producing it and the manner in which they produce it? All answers agree in assigning as the main cause of mottles in butter the uneven distribution of salt or brine as the result of insufficient working. The manner of production is generally explained by the statement that salt or brine intensifies or deepens and so changes the color of butter, the light parts containing less salt or brine than the darker portions. One holds the belief that there is more moisture in those portions of hutter containing more salt and this produces change of color.

Are buttermakers in your section troubled with mottling so far as your observation goes? There is more or less trouble, but less than formerly, owing to the better education of buttermakers.

HOW TO GET $100 COWS.

Buy, if you can, but they are rarely met. They are seldom recognized when met. They are never for sale when recognized, says Hoard's.

To raise them begin with the grandam. They must be adapted to your purpose and conditions. The bull is the largest factor in breeding, and should be the object of greatest solicitude in selection. He should come from stock of typical symmetry and demonstrated capacity. The cows should be tidy and typical rather than big performers without good form. Do not scruple to inbreed if your bull is better than the one you are likely to replace him with.

Just one word more. In a great many instances, the cow is made or unmade by the way she is fed and handled the first years of her life. A man who understands how to handle the heifer from calfhood up till she is well established in her growth, say at 15 months of age, has a great advantage over the ordinary farmer in the production of cows. We would pay considerably more for such a heifer than for one handled as the average farmer treats his young stock.

Many a good horse is spoiled, as far as looks go, if not more, when he gets the habit of rubbing out his mane and tail. This practice is not really a habit. Lack of exercise, as well as overfeeding, causes the trouble, and especially so where the animal is kept in a badly ventilated, dirty stable and not groomed daily. Stop feeding grain. Exercise or work every day and groom thoroughly each day. Dissolve two tablespoonfuls of glauber salts in drinking water twice daily. Wash the tail and mane thoroughly every other day with a 1-50 solution of coal tar disinfectant or dip.

The important features of a dairy cow are: (1) udder capacity, (2) size of barrel, (3) form of hind quarters, (4) head, neck, shoulders, (5) skin, hair, veins and escutcheon. Yet, in spite of the best outward indications, you often get fooled on the actual performance.

A FARMER'S OPINION.

My family must learn which is the best washing machine, the purest coffe, the best dress goods, etc., through the advertisements in my farm paper. I expect these ads to give as truthful descriptions of the articles for sale as an honest clerk would if we were shopping in some large city store. We haven't the opportunity to look around at different stores; we must buy mostly from advertisements.

Now, some advertisements don't look honest.

No farmer expects to get a set of harness free with every $3.00 pail of stock-food. We know somebody has got to pay for that harness—and we don't expect "something for nothing." We are perfectly willing to pay for what we get, but we do expect to get what we pay for.

The advertising that strikes me is the kind the "Security Stock Food" people do. They give a spot cash guarantee that their stock food will do certain things and that their remedies will be successful. They don't claim the earth or absolutely promise to cure every disease known to farm animals. But they do say in every advertisement and on every package sent out, "If not satisfactory, we will refund price in full."

That's the kind of advertising I believe in. If any one differs from me, let him send his ideas to the publishers of this paper for publication.

The Doke Stock Food Co., 2812 Central Ave., Los Angeles, has engaged Mr. R. R. Grant who will act as traveling representative commencing Oct. 9. This company has an excellent stock and poultry food which is meeting with good success. Write them for circulars and testimonials.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***If not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***

C. S. Burgess, Riverside, Cal.

J. A. CAMPBELL C. W. CAMPBELL

La Palma Stock Farm

We now have some of the very finest registered Poland China pigs of both sexes for sale. Also a few registered Jersey cattle, either sex.

Buena Park, Cal.

FOR SALE

Fresh Registered Jersey Cows, Seventy-Five ($75) Dollars each.
Yearling Bulls, Twenty-Five ($25) Dollars each.
W. J. COLE, Anaheim, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of **Marigold's Exile King**, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

JERSEYS

PEDRO'S PRINCE PRIMROSE and **LOWLAND LAD**, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

When writing advertisers mention Cultivator.

DEVON CATTLE

The Devons are hardy, easily kept and will fatten at any age. Docile, excellent milk and butter producers, and an ideal general purpose cattle. Stock for sale.
L. V. McWhorter & Sons - North Yakima, Washington

SUNNY SIDE STOCK FARM

Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

FOR SALE AT

Minnewawa Stock Farm

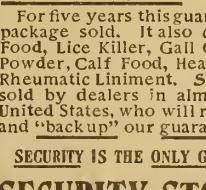
One pair dapple gray full blood registered Percheron fillies, 2 years old last spring.
One pair well matched gray geldings, 4 years old, 7/8 Percherons, weighing 3000 pounds; well broken to single and double harness.

M. E. & W. N. Sherman, Fresno, California

Gold Medal Herd

JERSEY CATTLE
SOUTHDOWN SHEEP
BERKSHIRE HOGS

Thos. Waite - Perkins, Cal.



DR. PAXTON'S REMEDIES

for Distemper, Epizootic. Russian influenza.
Cough and Throat Remedies
Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles

GEO. C. ROEDING, BREEDER OF HIGH-GRADE

Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

FRESNO, CALIFORNIA

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch

Box 321, Petaluma, Cal

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.
Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

A SPOT CASH GUARANTEE

We don't try to tell you what **Security Stock Food** has done for others; we show you what it will do for you.

Use **Security Stock Food** (glutenized) for growing animals; for fattening animals; for work horses; for milch cows. The Food won't cost you a cent if you can't see that **Security Stock Food** has saved feed, made quicker growth; kept your animals in better condition, given more milk, and made you more money. Write us if not satisfied and we will refund price in full. You are the sole judge. No questions asked.

For five years this guarantee has been on every package sold. It also covers Security Poultry Food, Lice Killer, Gall Cure, Colic Cure, Worm Powder, Calf Food, Heave Remedy, Healer and Rheumatic Liniment. Security preparations are sold by dealers in almost every town in the United States, who will recommend them highly and "back up" our guarantee.

SECURITY IS THE ONLY GLUTENIZED STOCK FOOD.

SECURITY STOCK FOOD CO.

MINNEAPOLIS, MINN.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

BE FAITHFUL.

"Sois fidele" (be faithful) was the motto for about a thousand years in the family of a little girl. Faithfulness in little things was inculcated in her family, but whether inbred in her or not, faithful she was as a little mite of a child, and especially toward living objects, her pets.

She was a frail little thing, the eldest of six children; but she was faithful; her brothers relied upon her, brought her all their pet animals, squirrels, mice, guinea pigs, kittens, birds of all kinds, taken from nests, as boys will do, finches, bluejays, meadow larks, blackbirds, thrushes, doves and even owlets. The little mother ten years old cared for them all according to their various needs. She searched the encyclopedia of natural history, finding in it the natural food of each different species, and endeavoring as far as possible to supply their natural food and imitate it closely. From sunrise (and the sun rose very early in those days) to sunset, every two hours "little mother" fed her charges. "Just three beaksful apiece," she said, "is the rule." The owlets were quite a trial to her, as their food was mice, but she visited the village store and purchased eight large thimbles, borrowed eight bowls from the cook and as many plates, she then stuffed each thimble full of cheese, set a thimble on a plate putting the edge of the inverted bowl on the edge of the thimble so that, when the mouse went under the bowl to partake of the cheese in the thimble, as soon as it began to nibble the thimble shook and the bowl slipped down imprisoning the mouse under the bowl, which was then immersed in a bucket of water.

In this way little mother supplied the mice for the owlets, but the boys were required to cut them up and assist at the feeding, for the owlets seemed to prefer little mother's fingers to the mice, and although she was ready to make every necessary sacrifice for the comfort of the solemn looking, flabby, little owls, she could not spare her fingers. The boys soon found the duties of caring for the little owlets more onerous than they anticipated and the three wise baby birds were carried back to the hole in the big oak tree which had been their home with a supply of mice for their supper to be administered by their own parents. When the other birds were full grown and able to fly the boys, their owners, claimed them and little mother regretfully gave up her charges. This was for years an occurrence every summer in the life of little mother, but during this time she had also pet canaries of her own, besides a squirrel, kitten, pony, goat and cow. There were chickens, ducks, turkeys and swans on the place, and although she had no charge of them they all knew her and loved her; she was the one to rescue the old hen who had jumped or flown into the pond after her brood of ducklings, and whenever there was trouble of any kind in the fowl yard little mother was generally to be found mothering the unlucky ones.

As she grew older she developed a large flock of canaries and the same faithfulness to them and study of their needs resulted in the same success.

When she become a trained nurse the same faithfulness went through life with her, so that no patient was neglected, her duties were never forgotten. Later on in life when she

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

ALBERS' BLACK MINORCAS
Still Lead
—Circular Free—
GEO. R. ALBERS
4849 MARMION WAY LOS ANGELES, CAL.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 14, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

INCUBATORS
DEAN'S PACIFIC
Guaranteed to Please. $12.50 to $23. Brooders $4.50 up. Catalogue free.
Dean' Place 2509 Central Ave Los Angeles, Cal.

LARGEST POULTRY SUPPLY HOUSE IN THE UNITED STATES
MIDLAND
POULTRY FOOD
PER 2 BUSHEL SACK $1.70 PER 2 BUSHEL SACK
TO REDUCE STOCK AND MAKE ROOM FOR A NEW POULTRY FOOD. WATCH FOR ADVERTISEMENT LATER.
Henry Albers Co.
315 S. MAIN ST. LOS ANGELES, CAL.

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

PETALUMA INCUBATORS
—AND—
BROODERS
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.
Sumptuously illustrated catalogue free; write for one at once. Send for our poultry supply catalogue No. 47, describing our line of supplies. Everything for the Poultrymen.
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

went into the poultry business, as a business, she was especially faithful and was one of the "lucky" ones who made a success of it from the very beginning, just by being faithful in little things. I think she is lucky; she claims that she is, but it is a good deal owing to patient, persevering faithfulness that brings her good luck.

Now I sometimes feel as if you all will get tired of my talking about little things. Life, and especially chicken life is made up of little things.

"Little drops of water,
Little grains of sand
Make the mighty ocean
And the pleasant land."

* * *

In my talks on roup and on summer care I have tried to emphasize the needs of fresh, pure water for fowls; keep the water pure and cool; it pays to lay a water pipe to the poultry yard, even to lay it above ground if you cannot put it under ground.

And then the "little grains of sand." Sand or grit is a mental characteristic of a successful man, and sand or grit is an absolute necessity for a successful hen. There are but few poultry ranches, and no poultry yards that have a natural supply of grit sharp enough or sufficient enough to supply grit or teeth for a flock of thrifty hens. Give them grit if you want them to lay eggs; give them a plentiful supply of grit, shell and charcoal.

Next time I will tell you of the evil effects of giving lime instead of grit. Just now I am at Portland and friends are waiting to take me to the exposition, so I will bring this letter to a close.

Later on I want to talk of some of the little things that cause us to have bad hatches, but it is rather early in the season for that.

POULTRY QUESTION BOX.

In the absence of Mrs. Basley, general information is given in answer to a number of inquiries which have come during the past week, though some will be more fully answered by Mrs. Basley on her return from the North.

* * *

Editor Cultivator: What is pip in chickens, the cause and the cure?—M. L. D., San Martin.

Pip is the result of a disease, rather than the disease itself. It is a drying of the tip of the tongue and the forming of a hardened coating. Some advise treating the tongue with glycerine, others picking off the hardened coating, though this is not exactly according to the best authority. If it comes from roup or catarrh or other condition which causes more or less fever about the head and breathing through the open mouth, treat those diseases according to the formulas given by Mrs. Basley in former issues of the Cultivator.

* * *

DUCK FEED.

Editor Cultivator: What proportion of corn meal, bran and beef scraps will make best feed for Indian Runner ducks? Should it be fed wet or dry? Is sand or grit necessary? Ducks just commencing to lay. Have range on alfalfa.—M. E. M., Santa Ana.

Equal parts meal and bran, ten per cent of beef scraps and perhaps five per cent grit. The addition of cooked carrots or other vegetables is advantageous.

* * *

MELONS FOR CHICKENS.

Editor Cultivator: Will it injure young chickens if they eat melons?—Subscriber, Lompoc.

Too many melons might result in diarrhoea, but if fed in reasonable quantity they make a good addition to poultry rations.

* * *

ROUP HEREDITARY.

Editor Cultivator: Have had serious trouble with roup this season. Is there danger of chickens hatched from these eggs inheriting tendency to disease?—V. B., Santa Ana.

While it is not probable that the disease is directly hereditary, it goes without saying that hers which have been seriously diseased have lower vitality than those which have been thrifty all their life. If the hen has lower vitality, the egg has also, so that the resulting stock would be less hearty and more subject to disease We would advise using your eggs for market purposes and securing from the strongest and thritiest stock possible fresh eggs and when the young are hatched would keep away from runs of last year's flocks, if possible to do so. If not, thorough disinfection and every precaution to protect from draughts, moisture and other bad conditions, should be taken when next year's birds are hatched.

* * *

SEX OF CHICKS.

Editor Cultivator: How old should White Leghorns and Plymouth Rock chicks be before allowing to roost on poles? Do not wish crooked breastbones.

How can I distinguish the sex of small chicks? At about what age should they be separated?—F. J. E., Escondido.

The Leghorns being lighter weight may be allowed to roost on poles younger, say at two months, but the heavier breed should be at least three months.

The comb and size of the head are the only ways of determining sex of the very young, and some claim to be expert enough that they can separate the sexes a very few days from the shell. The comb and head of the male is almost invariably slightly larger, though it takes considerable experience to be infallible in determining the sex of the very young chickens. They should be separated while quite young, especially if the runs are small. If before two months old, it will be well.

Poultry pays more in proportion to the amount of money invested than any other stock on the farm. There is no reason why the department of poultry on every farm should not be systematized as to apartments, regular care and attention, as well as that of cows, horses and sheep. If you neglected your cows or your horse as many farmers do their poultry, you would soon be a defendant in a suit for foreclosure, if you arn't already.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

THE PAC FIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

ASK YOUR DEALER FOR IT **Calfalfa Meal** ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings, or Oil Cake Meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application

MILLS West & Nielsen Aves

California Stock Food Co.

FRESNO, CAL.

OFFICE 121 Forsyth Bldg.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

A Visit to the Large Packing Houses in the Eastern Cities

In Three Chapters.—Part III.

BY A. R. COULSON

AT CHICAGO

Chicago, Ill:. is the greatest business city of the world today. In Chicago you see great, monstrous buildings, a whole block square and perhaps twenty or thirty-five stories high; and occupied by one store, or owned by one firm. Sometimes one firm will occupy several of such buildings and employ thousands of persons.

The shopping district of Chicago is the most congested in the world; this is probably due to the scheme of street car transit, to bring people from all directions to one center. Consequently the stores had to be built both up and down, that is deep foundations, allowing four or five stories underground and twenty stories or so above ground.

The head offices of many of the largest business firms and the greatest commercial institutions in the world are invariably located at Chicago.

The Meat Packing business, the greatest industry in the country, is an industry whose six leading exponents turn out a product exceeding the United States Government income.

It is the only business in the world that shows a loss on its main product, and still draws a profit on its entire operations—because it has measured the value of waste material, and found use for all.

This is the Packing House business, whose "Big Six" do a business of $700,000,000 a year and represent an invested capital of $90,000,000, employing 200,000 persons, and supplying the whole civilized world with food products.

While I was in Chicago I went over to La Salle street to the head offices of the Armour Packing Co., a ten-story office building, and on each floor are offices devoted to special departments of the business. As I was interested in doing business with the Animal Food Departments, the general office of which was on the tenth floor, I got in one of the elevators, and in about three seconds, I was shot up and out on the tenth floor.

I gave my card to one of the messengers, and was taken into the private office of Geo. C. Vernard, who is the manager of the Fertilizer and Animal Food Department at the Union Stock Yards, Chicago, and is also General Manager of all other branches located in the different cities. Mr. Vernard was formerly at the Kansas City plant, but on account of his good judgment and good business management, he was promoted to the head office and given authority over the Fertilizer Department of all the other plants.

We went out and had lunch in one of Chicago's swellest dining rooms, and then we got on the Lake Shore train and went out to the Packing House Plants at Union Stock Yards, Chicago. (See illustrations.) In order to get a photograph of the immense works here, it was necessary to go up in a balloon and the photograph was taken from a balloon at an elevation of 750 feet above the ground.

The development of the methods of meat preparations has been marvelous. The new methods and large establishments have been the outgrowth and gathering together of many small shops; thus today instead of small butchers, we have large packing houses caring for many thousands of cattle, sheep and hogs per day. This has brought about reforms almost impossible had the industry been left in the hands of the small butcher. Sanitary care of the products, the utilization of every portion of the animal and the cheapening of the cost of meat is the result.

They understand the necessity of the rapid disposal of the numerous portions of the animal anatomy; the prominent idea being to do the work as cleanly, carefully and as rapidly as possible.

In the actual slaughtering operations, three features of economy are evident; the use of labor saving machinery, the subdivision of and specilization of labor, and the use of every part of the animal to the highest advantage.

The by-products have made the Packing House Industry possible, has built up vast stock yards and great Packing Towns; and has developed the great West into a settled country of stock raisers and corn growers and has given the people of the world fresh meats.

Balloon View of Armour's, the largest Packing Plant in the world. Photographs taken from a Balloon at an elevation of 750 feet. This is one of the plants that furnishes the Coulson Poultry and Stock Food Co. with Hearts and Liver Meat Meal, Dried Blood and Ground Beef Scraps, etc. for making Coulson's Poultry Foods.

This is why the packer is today the captain of industry, and of many industries. One of the packing house firms, for example, conducts as many as sixty-eight different businesses in different cities; and as far as possible, each one of these sixty-eight, or more businesses in a packing house, is conducted on an independent basis. It has its own place in the Packing House proper and its own office force in the general office, each department is expected to show a profit in its operations. All these different departments are made to pull together by means of a General Manager, located at the head office at Chicago, who gives instructions to the managers stationed at the factories.

The animals walk to the Packing House on their own feet, and are driven to the knocking pens as required. After being stunned by the knocker, they slide down into another department, where they are shackled with chains, and hung up on rails, which are fitted to the ceiling of the packing house. They are like inverted railway tracks, and they slide along on wheels. From the time the steer is hoisted to the rail on the killing floor until the time he is shipped as dressed beef, several days later, he never leaves the rail; as by means of a switcher the animal can be sent to any part of the plant. There are more than ten miles of these rails in the Chicago plant.

It takes 126 men to slaughter an animal, 126 individual operations are performed from the time it leaves the pen until it travels to the cooler. Each man is trained to do one particular thing—one man skins a fore-leg, another man some other part, etc.

The Hearts and Livers are kept out in a pile by themselves. These are cooked and baked in big boilers and furnaces, and are made into Hearts and Liver Meal, which is shipped out in carload lots to the Coulson Poultry & Stock Food Co., at Petaluma, California; and they use it in making Coulson's Special Dry Chick Food,

View of the General Office of Armour & Co., at the Union Stock Yards at Chicago.

which is said to be the Greatest Feed in the World to make Little Chicks Grow and keep them healthy.

The live animal, before entering the slaughtering house has undergone the State, City and United States Government Inspection. Fourteen days after the animal is slaughtered it is ready for sale in England, and by simple refrigeration the meat is kept bright and fresh.

In the cutting rooms you see hundreds of men carefully carve out the various portions. One might be cutting meat for the English market, another for the Belgium trade. The meat products are sent to nearly all countries of the world. Barreled pork to South Africa, Bacon to Finland, Norway and Sweden. Then there are the Canned Meats, one hundred varieties, and sausages, not only for home consumption, but also for Porto Rico, Cuba, France, Germany and Belgium. A production of 100,000 pounds in a day is often made. Then there are the extracts of beef, chipped beef, lard compound, lard oil, butterine, mince meat, plum pudding and hundreds of other things.

The utilization of this formerly waste material can only be accomplished where stock is killed in large numbers, as the plants for taking care of such products are very expensive, and beyond the reach of the small slaughter houses.

This is why Armour Co. are in the best position to make the best Animal Foods, for they can handle it while it is fresh, and prepare it in better shape, and this is why the Coulson Poultry & Stock Food Co., have contracted with the Armour Packing Co. for the Animal Meals which are used in preparing Coulson's Egg Food and Coulson's Chick Food, etc.

The Dried Blood is collected as soon as the animal is killed and it is cooked and evaporated and made into Dried Blood Meal. This is then put up in bags and used by the Coulson Co., in making Coulson's Foods.

The Hearts and Livers from all the animals are cooked and baked and made into meat meal and shipped to the Coulson Company, and this is one of the reasons why Coulson's Special Dry Chick Food gives such good satisfaction.

All the beef scraps that are made at this immense plant, also all the Beef Scraps that they make at Omaha Kansas City and St. Louis, are shipped out in carload lots to the Coulson Poultry & Stock Food Co., at Petaluma, California, and these Beef Scraps are sold to the poultry men of the Pacific Coast at from $3 to $3.50 per hundred pounds, according to the quantity purchased, etc.

But almost the entire quantity of Hearts and Liver Meal is used by the Coulson Co., themselves, in preparing Coulson's Egg Food, a mixed feed to make hens lay; and COULSON'S SPECIAL DRY CHICK FOOD, the greatest feed ever made to promote the growth of baby chicks and turkeys.

There are many other Poultry Foods on the market which the merchant will tell you are cheaper than Coulson's—but for the small difference of 10 cents or 25 cents on a sack, it will pay you to get Coulson's every time.

$500.00 to be given away. Look for Particulars in every 100lb sack of Coulson's Special Chick Feed.

COULSON'S SPECIAL CHICK FOOD.

Contains ingredients that long experience in poultry raising has found best adapted to give nourishment to growing chicks. It is promptly digested; causes no indigestion; keeps bowels in normal condition. Chicks show increase in weight, strength and beauty when fed it exclusively. Little chicks need no other food for the first five or six weeks. Save your chicks and make good profits.

It goes further than any other feed, as it is all good substantial feed. You can feed it to chicks the first four weeks at a cost of 3c per chick. The second month at a cost of 5c per chick.

You will have the best success you ever had in raising Chickens if you will feed COULSON'S SPECIAL DRY CHICK FEED. Send for sample. It's good for turkeys as well. Ask your dealer.

View of the entrance to the Union Stock Yards, Chicago. The Hearts and Livers from the animals are cooked and baked and made into Meal and are used by the Coulson Co., in making Coulson's Special Chick Food.

Scraping, Cleaning and Dressing hogs preparatory to going into the cooler. Man in black U. S. G. Inspector.

Coulson's Special Chick Food

If you want to see chicks dive into the feed as though they like it; if you want to see the little chicks always spry and healthy, if you want them to grow rapidly and mature quickly, then feed them

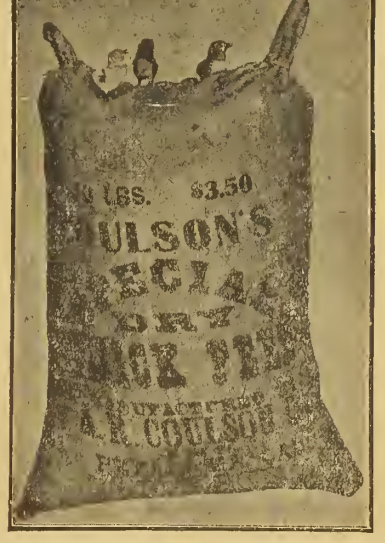
Coulson's Special Chick Food

and you will be pleased with the way your little chicks are growing. No bowel trouble, no weakness amongst the chicks if they are raised on

Coulson's Special Chick Food

for it will raise the finest and largest chicks.

$500 in Prizes



A Train Load of Coulson's Special Chick Feed was used in California last season—800 stores sell it. A great many stores will try to sell you some other kind. Insist upon having Coulson's Special Feed, for your success may depend upon it. Remember, YOUR success, not his.

Send 4c in stamps for a Catalog and Poultry Account Book

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

WHAT A BOY CAN DO.

These are some of the things a boy can do:
He can shout so loud the air turns blue;
He can make all sounds of beast and bird
And a thousand more they never heard.

He can crow or cackle, chirp or cluck
Till he fools the rooster, hen or duck;
He can mock the dog or lamb or cow,
And the cat hersedf can't beat his "meow."

He has sounds that are ruffled, striped or plain;
He can thunder by like a railway train,
Stop at the stations a breath and then
Apply the steam and be off again.

He has all of his powers in such command
He can turn right into a full brass band,
With all of the instruments ever played,
And march away as a street parade.

You can tell that a boy is very ill
If he's wide awake and keeping still.
But earth would be—God bless their noise!—
A dull old place if there were no boys.
—Christian Endeavor World.

The Valley Between.

The Spur Mountains belonged to the Macdonalds, and the Lonnon Mountains to the McAllisters. The valley between them was no man's land, for they were too busy fighting over it to keep the thieves from the hills. They had fought year in and year out for longer than the memory of man, and neither boasted long of advantage, till the days when Robert McAllister, seventh of the name, grew old. Then an ill time happened to the clan. His eldest son slipped over a crag and was killed. His second and third sons were slain, away in the wars; and the youngest son died in his bed of some womanish complaint—a hard fate for a brave man. Since Robert McAllister was too old for arms, the name of the clan grew small, and the more daring of the tribesmen took service abroad under the king of France; for Mary McAllister had the spirit of a man, but the body of a maid.

Alan, the young chief of the Macdonalds, had won great renown in arms, and he had the way of leading men; and those who are born for leading never lack men to lead. He drove the McAllisters from the valley, and built little fortresses there to hold it, and when he had held it for a full year he sent a message to Robert McAllister, saying that further strife was vain, and offering terms of peace if they would own that the valley was his.

Thereupon the McAllisters gathered together and made a great raid, taking away cattle in hundreds that were in the valley to graze, and razing one of the little fortresses to the ground. The week after, Alan Macdonald fell upon them and took back about fourfold. And afterward he sent a piper with a letter, which read like this:

"From Alan Macdonald to Robert McAllister, most courteous greetings.

"The fortune of war has given us advantage which you cannot resist. When strife is useless, strife should cease. If you will own that the valley is mine, I shall be honored by your using it. It is said that good foes make good friends, and I am wishful to try; for there is none who honors your name more than I."

Robert McAllister, being a wise old man, was mindful to consent.

"It is a generous offer from a gallant enemy," he said.

But his daughter pleaded with him in her dead brothers' names and prevailed. So he made answer thus:

"Robert McAllister sends all courteous greeting to Alan Macdonald. The fortune of the moment changes. For those who come after, I hold to what I have held and my forefathers before me. If our numbers are lessened, our courage is not."

Then came another message from Alan Macdonald:

"If you rely on courage, let one of your tribe meet me in single combat, the valley to belong to the victor's clan.

Alan Macdonald."

Many of the McAllisters volunteered for the fight, but there was no great man of arms among them, and the elders would not consent.

"It were giving Macdonald the land," they declared. "There is no man in Scotland who can stand before him." For he was a large, powerful man, and withal quick as smaller men are; and had a curious cunning of fence which he had learned in France.

So they sent no answer at all, and Mary McAllister locked herself in her room for two days, and brooded over the dishonor of her clan. Presently she made a deep plan, as women will do, and rode out in the gray dawn to the castle on the Spur Mountains; and when Macdonald's outposts challenged her in the valley, she answered:

"I am Mary McAllister, and I have come to answer the challenge of your chief." Then they sent a guide to conduct her the easiest way to the castle, and when the chief warder came to the gate and asked her pleasure, she made him the same answer as before.

After he had stared at her once for her daring and twice for her beauty, he conducted her to a great hall; and Alan Macdonald rose and came to meet her, and set a chair, and stood with his cap in his hand, marveling that any woman should be so fair; for she had pale-blue eyes and red-gold hair, and her face was like a wild spring flower.

"You honor me greatly," he told her. "Have no fear." She laughed carelessly.

"I had no fear," she said, and he bowed.

"Fair lady, you honor me more."

"It was not for your honor I came, but for the honor of my clan, and my own." He bowed again.

"There is no dishonor in peace," he said.

"Neither have I come in peace." He caught a look in her eyes that he had seen in the face of a foe before, and he knew that she spoke no light word. Wherefore he became very grave.

"War is not for women," he told her.

"I had not come if any of my brothers had lived; but perchance"—she tossed back her hair that was like red gold—"you had not challenged us then?"

He flushed hotly. "Think you so?"

Their eyes met for a moment, and she smiled suddenly. There was a year's spring, it seemed to him in her smile.

"Nay," she owned, "I think not so. Alan Macdonald, you fear no man." He laughed a soft laugh.

"I have feared no woman till now." She put her head back and looked up at him.

"Fear you me?"

"As a man may fear."

"Fear you my challenge?" He knitted his brows in thought before he spoke.

"Name what champion you will," he said at last. "I will meet him, if he is not your lover. Believe me,"—there was a sudden depth in his voice—"I would not earn your hate." She laughed scornfully.

"Is it yet to earn?"

"His blood be upon your head," he said sternly. "I will meet him." She laughed.

"I have no lover. The challenge is my own."

There was a quick murmur of laughter among the retainers, but their chief checked it with a glance.

"I am dull witted, lady; help my lack of brains."

She drew a deep breath.

"You sent a challenge to our clan, that one should contend with you. It was not an equal wager, yet there were those who would have died, had they not been overruled." Her eyes flashed.

"Also I took the risk," he reminded her.

"It was not an equal risk, as you knew." He frowned.

"Who shall deny his strength to the stronger man?" he asked.

"Shall he use it against a weaker?" she demanded. He frowned again.

"It is the way of these things."

"That he should take advantage against the weaker? Would he then use his strength against a woman?"

"No," said Macdonald, heartily. Surely not."

"Wherefore," said she, "I bring to you an equal challenge. She looked him in the eyes.

"If your challenge is such as a man may meet," he answered steadily, "I accept it unheard."

"It is an even risk," she said calmly. "Your life against mine."

"Never." She shrugged her shoulders.

"It is not my habit to fight a woman on any terms at all." She laughed scornfully.

"A woman is not so much to fear."

The gray-bearded Hector, who was reckoned wise, rested his trembling old hands on the table and leaned forward.

"A woman of all things is most to fear," he said.

"Before age has brought wisdom, do you fear?"

She turned haughtily to Alan.

"Aye," he said, "I greatly fear."

"The risk is only equal." He shook his head.

"A woman's life is more to a man than his own."

"My life is naught to you," she answered. He looked her in the face boldly.

"Try me, lady," he said; and the thought crossed her mind that Alan Macdonald had been good to have as a friend, but she bit her lip and answered coldly:

"Such as my life is, I dare risk it."

She put her hand in her bosom and drew out two quaint phials of colored glass, with stoppers of dull wrought gold.

"Will you drink a toast with me?" she asked.

"Surely," he answered, "if it is such as a man may." But he looked at the two strange vessels and liked them not.

"It is an innocent toast enough and harmless—if you drink the one."

"And if I drink the other?"

"It is only death."

"There are worse things," he told her. She pushed the phials smilingly toward him.

"Choose. I will drain the other."

"And then?"

"One of us will gain the valley, and the other will feel not loss."

He took up the phials and held them in the sunlight that streamed to the floor. Then he put them down again.

"I pray you send some other challenger," he begged.

"The challenge is mine," she insisted. "If you are no coward, choose now." He shook his head, and she rose from the chair. "I will go to my father

THE STAR OIL BURNER
ITS OWN GAS MAKER
(Patentees N. L. Rigby and S. S. Sprague)

This Burner is offered to the public upon its merits. It is not an experiment, but a practically tested and successful invention. It has no superior for safety, simplicity, economy and durability. It is made without bolts, screws or rivets. It makes a pure hydro-carbon gas from low grade distillate oils, and gives you a fire as bright as the stars. Free from soot and smoke.

STATE AND COUNTY RIGHTS FOR SALE

For terms on burners or territory apply at office of

WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation

When writing advertisers mention Cultivator.

FULL OF COMFORT AND PLEASURE

The California Limited Log-Book:

I have traveled over many railroads and have failed to find one equal to the "Santa Fe." Without doubt the California Limited is the most luxurious train in the world. The service is excellent in every respect, and the attentions and courtesy shown by the employes is most gentlemanly. A trip to California via the Santa Fe is one that should be long remembered; and it is full of both comfort and pleasure.

ED. L. LYCALT,
28 So. 21st St, Philadelphia, Pa.

SANTA FE IS THE WAY

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

and tell him that Alan Macdonald was afraid."

The young chief flushed rosy red as a girl blushes.

"Send a man to tell me so," he cried fiercely.

"One less strong and less skilled in arms?" There was an angry sound among the men at their table, but he quieted it with a wave of his hand. "Come on," she tempted him. "Death is not so much to dread. Give me one, and I will drink first."

He lifted the little vessels again and watched them sprakle against the sunbeams. It was awesome, he thought, that death should come in such a guise; and he was angry with himself, because he feared that he feared.

"Dare you not?" she asked tauntingly.

"Aye," he said. "I dare. Give me which you will."

The wise man moved as if he would speak, but stopped at the look in her eyes.

"I should give you death," she answered. "For I know." Alan Macdonald looked hard at her, and saw that truly she was passing fair.

"Give me death if you will."

The wise man leaned forward again and again he said naught.

"I take no odds," she said. "Neither would I have the death of so generous a foe on my soul. For your honor, Alan Macdonald, choose."

He bowed and looked at the phials once more. One was green and one was pink, and either flashed in the sun.

"It were better to share one," he said.

"Aye," muttered the sage, "woman and man were made to live together."

"When they are foes," said Mary McAllister, "one is better dead."

"See that the lady is escorted home with all honor," he commanded, " if I die;" and before anyone could stay him he had drained the green phial. "Your health, madame."

Mary McAllister rose steadily, and put out her hand for the pink vessel.

"Your health, sir," she said. "You have won."

He saw that her color faded somewhat, her hand trembled somewhat and her bosom heaved as she raised death to her lips, and suddenly he dashed the vessel from her hand on to the floor, and shivered it into fragments.

"I pray you live," he begged, "and have me at your command."

Mary McAllister sank in her chair and buried her face in her hands for nearly a minute by the great clock that ticked on, as if life and death were nothing at all. When she looked up she was ashy pale, and she accepted her foeman's arm to rise.

"You are a very brave man, Alan Macdonald," she told him, in a slow, hushed voice. "Suffer me to go."

So he led her to the gateway in silence, and held her foot when she mounted.

"Friend or foe?" he asked under his breath. She looked at him with her great blue eyes.

"Foe," she whispered hoarsely, "but I honor you greatly."

Then she rode away into the mist that hung over the valley below, and he gazed after her till she was lost to view.

"There was never her like in all Scotland," he vowed. "She would have drunk her death."

"Aye," said the sage, "she would have taken it—and perchance she has more of it at home!"

The young chief stared at him for a moment, and then gave a great shout.

"My horse! Bring my horse!"

He ran to meet them as they came, leaped on his great black charger and rode down into the mist as if his senses were not in him.

"If harm should come to her!" he muttered. "Good God, if harm should come to her!"

He stroked his horse's mane and called it by every pet name to make it gallop faster. They rushed on, over hedges and ditches, and gray stone walls that grew suddenly out of the fog. He peered through the gloom with his eyes burning like fire, and saw nothing. Only as he rode up Mount Lonnon and the mist lifted a little, he caught a glimpse of someone riding far above and knew that he could never catch her by the way that she went. He drew a long breath and turned his horse aside from the track.

"A woman's life is worth more than a man's," he said, under his breath.

From the foot of the mountain to the castle high above the bridle path runs a long way round; and between bend and bend lies a great ravine that neither man nor beast had crossed, twenty feet at the narrowest from side to side. The edges overhang so that the bottom is not seen and when a stone falls one grows tired of listening for the distant crash below. Alan Macdonald rode straight for the ravine. When he came to the edge he looked till he found a plat of level grass, and there he rested his horse for a moment, and patted his neck and whispered in his ear.

"Now, boy, now!" he cried. The horse sprang forward over the even ground, gathered himself together on the edge of the abyss and flew into the air.

"Live together, or die together," said Alan Macdonald under his breath.

Then he saw his horse falling short of the black rock—felt him strike against it—was hurled forward with a crash—clutched at something hanging from above, and held dizzily to it—caught the sound of a woman's cry—clung mechanically to something, he did not know what—heard a dull thud. That must be his horse fallen below—he would follow in a moment—his hand seemed unclosing—he was going, going—Then he remembered no more for a time.

When he found the world again he was lying in some long grass, he thought, and there was something yet softer under his head. He could see nothing at first but the mist and the swaying tops of the trees. He was not sure whether he was dead or alive till he tried to stir and groaned for the pain. Then a woman's face hung over him, framed in the mist—the face of Mary McAllister.

"I thought," he said in a faint voice, unlike his own, "I thought I was dead." He lost the face again and heard no answer. "Perhaps," he muttered, "I am." He tried to raise himself and barely stifled another groan.

"You must not move," said a very gentle voice, "you are badly hurt, very badly, I fear."

"Yes." He tried to look around at her.

"Only be still,," she entreated. "I have sent for men to carry you. They will come soon."

"Soon," he muttered. Then he began to wander in his mind, and clutched at the air, dreaming that he was hanging over the ravine, but he found two soft hands holding his arms.

"You are not there now," she assured him. "You are safe, quite safe." He roused again.

"How—did it—happen?"

"You were hanging by a dead branch. "I—I lifted you here."

"I owe my life to you," He smiled as if the thought pleased him. "My foe."

"I do not think," she whispered, "we are foes any more. You must not move."

"You saved my life."

"You had saved mine."

"You were going to take the poison at home?"

She shivered, and suddenly he knew that his head was upon her lap. "Let me see your face again," he entreated, "in case I should die."

"You shall not die," she vowed passionately, and bent over him and let him see her face; and the tears were running down it, and one fell on his cheek.

"The poison?" he asked. "You would not have taken it?"

"Yes," she said, "I would."

"You will not now? For the love of Heaven, dear lady?"

"Why did you take the leap?"

He smiled faintly. "For you."

She looked right into his eyes.

"Why do you care so much for my life?"

Because he was dazen, the fine speeches he tried to fashion would not shape themselves to an end. So he said simply, "I love you."

"Then," she said, "since you won my life, keep it, and do with it as you will;" and he trurned to look at her without a moan at the pain.

"If I rise a whole man," he said, "I will give you my whole heart.' She looked at him with a glitter in her eyes.

"And if you do not," she said, "I will take it."

And because he was so helpless and his eyes pleaded with her so, she bent down her head and let him kiss her red lips.

"To live or die together," she vowed.

So when the leech came with his herbs and bandages, she whispered to him to use all his skill.

"For," she said, "you hold two lives in your hands."

Some said it was the leech's craft that saved him, and some said it was the gentle nursing of Mary McAllister, and some said it was his own great strength, and some said it was the strength of his love for her; but Hector, who was old and wise, put it all to the mercy of God. And when Alan Macdonald was recovered the clans went down from the mountains, with white favors in their bonnets, and married them in the valley between.—Leslie's Monthly.

SIMPLE BREAKFAST.

We serve simple breakfasts because we believe it to be poor policy to start the day with a stomach overloaded with heavy foods, also because we believe that the time, money and force spent in the preparation of rich, indigestible meals is worse than wasted. Scientists and chemists have proved that a proper combination of fruits, cereals, eggs and milk form a perfectly balanced ration. These enter largely in our breakfasts, are easily prepared, and as our family is composed of brain-workers and students, are sufficiently sustaining. Here are a few samples taken from the past week:

Coffee, peaches, graham mush, omelet, white bread.

Cocoa, melons, egg on toast, graham bread.

Coffee, a ready-prepared cereal, dried beef with gravy on toast, prunes.

Cocoa, baked apples and cream, egg souffle, whole-wheat bread.

Coffee, muskmelons, hot corn bread and honey.

Hot breads, hot cakes, waffles, ham and fried foods of all sorts are eliminated. Thousands of people keep their energies at a low ebb while their stomachs are wrestling with these abominations.—Woman's Home Companion.

FEMINITIES.

If you won't lend, don't borrow.

The finest thing in any home—good humor.

Working with a leaky gasoline stove is courting death.

There is a difference between being friendly and being familiar.

Some day children will be fed and reared as carefully as live stock.

Recipe for a stew: A trifle of fret, a pinch of regret, a cross word or two.

An M. D. says dyspeptics would not "chew the rag" so much if they chewed their victuals more.

WANTED

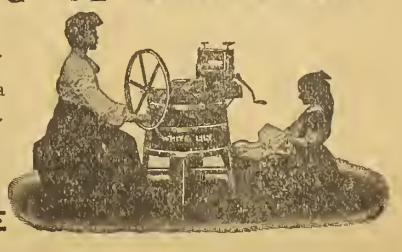
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. Refereuces required. For full particulars. address
KOCH V. T. CO., Box C, WINONA, MINN.

Oh! What A Difference

IN THE MORNING
Especially wash day morning when you use a

WHITE LILY WASHER

JUST TRY ONE



Ask your HARDWARE DEALER for the WHITE LILY
WHITE LILY WASHER CO.
1539 Rockingham Rd, Davenport, Iowa

When writing advertisers mention Cultivator.

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

When writing advertisers mention Cultivator.

EXPERIMENTS WITH INOCULATION.

(Continued from First Page.)

and had nodules, but the same was true of plants which received no manure. That manure may favor the development of alfalfa bacteria when they are already in the soil may possibly be true, but I do not think it furnishes them unless it is made from alfalfa hay or the hay of nearly related plants in the "Medicago" family, for alfalfa's botanical name is Medicago Sativa.

* * *

Whether the quality of alfalfa is improved by having an abundance of bacteria is a question on which there is no direct evidence which has come to my notice, but there is some indirect evidence which favors an affirmative answer.

In an experiment conducted at the Michigan experiment station, in which one plot of cowpeas was inoculated and another was not, it was found that the peas from the inoculated plot had nearly one-half more crude bacteria than peas from the other plot; hence, were more valuable for feeding purposes. If this is true of cowpeas it is probably true of alfalfa also, and it raises the question whether an advantage may not come from artificial inoculation even where land is slightly inoculated to start with.

I hope farmers will try inoculation wherever they sow alfalfa or at least a part of the field, and thus demonstrate for themselves whether their crop is benefited by it."

Every dairyman, whether he keeps 5 cows or 50, should grow a succession of succulent foods for the cows. It can be done in California.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
—— ARE RELIABLE ——
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

Los Angeles Markets.

Los Angeles, October 5, 1905.

Butter.

Butter has made no material advance this week, but maintains a strong tone as quoted:

B. of T. Creamery, per roll	.60
Valley Creamery, fancy	.60
Coast Creamery	.55
Fancy Dairy	.47½@50
Cooking, per lb	.24

Cheese.

Cal. 3-lb. hand	.16¼
Cal. Young America	.15¼
California Anchor	.15
Northern	.12½@13
Eastern	.16
Domestic Swiss	.16½
Imported do	.27½

Eggs.

Fresh ranch are scarce and are quickly taken at the following quotations:

Eggs, fresh ranch	.37@38
Eastern and Storage	.28@30
Seconds	.23

Poultry.

Poultry remains as quoted last week.

Fryers, 2½ lbs	.15
Broilers, under 2 lbs, per lb	.15
Young Roosters, per lb	.15
Hens, per lb	.13@14
Ducks, per lb	.11
Turkeys, per lb	.18@20
Geese	.11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt	$5.50@3.50
Prime Steers, cwt	3.50
Cows, cwt	2.85
Calves, cwt	4.50
Sheep, ewes, per head	3.50
Lambs, do	3.25
Wethers, per head	4.00

Potatoes.

Northern, per ctl	1.00@1.20
Locals, per ctl	.75@1.30
Sweets, white, per cwt	.75@$1.00
Sweets, yellow	1.00@1.25

Vegetables.

Onions, yellow, per cental	.75@1.00
Onions, Silver Skins, sks	.60@75
Beets, per 100 lbs	.75
Cabbage, per sack	.50
Parsnips, per sack	.60@65
Bell Peppers	3@4
Cucumbers, per box	.35@40
String Beans	3½@4
Wax Beans	3@3½
Green onions, doz bunches	.25@30
Carrots, doz. bunches	.30
Artichokes	.40@50
Turnips, doz. bunches	.25@35
Garlic	6@8
Celery, dozen	.30@45
Peas, per lb	3½@4
Egg Plant	3
Chili Peppers, green	2
Chili Peppers, dry	.15@20
Tomatoes, local	.35@40
Asparagus	8½@10
Parsley, per doz bunches	.30@40
Summer squash, bx 20 lbs	.15@25
Green Corn, per sack	.50@75
Lima Beans	3
Rhubarb	2½

Citrus Fruits.

Valencias	$3.50@4.50
Lemons, standard	1.50@2.00
Lemons, fancy	4.50
Grapefruit	1.50@2.50

Fresh Fruits.

Apples, 4-tier Bellefleur	.85@1.10
Apples, 4½-tier Bellefleur	.75@85
Apples, 4½-tier Rhode Is. Grn	90@1.10
Apples, Red Pearmain	1.15
Apples, Gravensteins	.90@1.10
Strawberries	5@7
Logan Berries	7@8
Pomegranates, per crate	.75@90
Peaches, per box	.75@1.25
Plums	.90@1.25
Figs, per box	.50@75
Black Figs	.50@75
Muscats	.85@90
Tokays	1.00@1.25
Cornichons, lb	.5@6
Quinces, per box	.75
Pears, Winter Nellis	.75@90
Muskmelons, large crates	1.50@2.00
Watermelons, doz	.35@1.75
Guavas, per lb	4

DRIED FRUIT.

Prunes are quoted at 4 cents for Santa Claras, bag basis; other sections ¼c less.

Peaches, ch, 7½@8; ex c, 9@9½; fy 9½@10½.

Apricots: st, 7@7¼, ch, 7½, ex c, 8, fy, 9@11.

Beans, Dried.

Limas	4.50
Pinks, fancy	3.65@3.75
Pinks, rain damaged	2.50@3.00
Lady Washington	3.25
Small Whites	3.75
Black Eyes	2.50@2.75

Nuts.

Walnuts, No. 1 soft shells	15
Do, No. 2	9
Do, No 1 hard shells	12½
Do, No. 2 hardshells	8½
Almonds, paper shell	18@20
Almonds, soft shell	18@20
Peanuts, California	5@6
Peanuts, Eastern	7½@9

Honey

Honey, comb. frames	10@15
White strained, per lb	5@5½
Amber	4@5
Beeswax	23@25

Hay.

Barley, new	8@12
Alfalfa, local new	$10@11.50
Alfalfa, northern	9@10.50
Wheat, new	10.00@11.00
Tame Oat, new	11.00@12.50

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	1.35@1.40
Barley	$1.00@1.02½
Corn	1.25@1.35

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.20
Bran	$1.30
Feed Corn Meal	1.45
Middlings	1.40
Wheat	$1.65@1.70
Cracked Corn	$1.50
Corn	$1.45
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

San Francisco Markets.

San Francisco, October 4, 1905.

Dairy.

Again butter has advanced a cent a pound in some classes, but the demand is very quiet and there is not much life in the market; most buyers are pursuing a hand to mouth policy in placing orders. As a rule, the better offerings command top quotations, but the lower grades are often shaded.

BUTTER—Per lb:	
Creamery, fancy	.27 @28
Do, good to choice	.26@27
Dairy, choice	.24@26
California Storage	.23 @25
Eastern Creamery	.22½@24
Eastern ladle	.20 @21

CHEESE—Per lb:	
California Creamery, mild, new, extra	.13 @14
Do, choice	.11 @12
Young America	.13 @14
Eastern	.15 @17

Eggs.

Strictly fancy ranch eggs are very scarce and quickly picked up at top quotations. There has been a general advance during the week. Notwithstanding this, the greater number of buyers show a preference for storage grades, which command full quotations.

EGGS—Per doz:	
Ranch, good to fancy	.36 @39
Ranch, selected large	.40 @41
California storage	25 @28
Eastern, extra	.27@27½
Eastern, firsts	.24@26
Eastern, seconds	.21@23

Poultry.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $4.50@5.50 Fryers, $3.50@4; Broilers, 3½@4½. Hens, small, $4.50@5; large, $6@7; Live Turkeys, per lb., 21@23c; Spring Turkeys, 24@25c; Ducks, old, $4.50@$5.50; young, $4.50@6; Geese, per pair, $2; Goslings, $2.25@2.50; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $2@2.25.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, fancy, 90@$1.25; common to choice, 40@75c.

Figs, per box, Black, 40@85c, as to size of package.

Pears, per box, Bartlett, $1.50@2; Winter Nellis, 75@$1.25; other varieties, per box, 40@$1.

Peaches, per small box, 75c@$1; carrier, 75c@$1.

Table Grapes—Per box or crate: Seedless, $1@1.10; Muscats, 50@85c; Cornichon, 75@90c; Blacks, 40@65c, Tokays, 65@90c; Isabellas, 85c@$1; open boxes, 75c@$1.50, as to variety.

Wine grapes—Per ton. Zinfandel, $24@30; Mission, $20@24; White, $18@22.

Pomegranates—Per box, 65c@$1.50.

Plums—Per box or crate, 40@75c.

Prunes—Per box or crate, $1@1.50.

Quinces—Per box, 65@75c.

MELONS—Cantaloupes—Per crate, $1@1.50.

Watermelons, per doz, $1.50@4; Nutmeg Melons, per box, 40@75c.

BERRIES—Blackberries—Per chest, $3@4.

Raspberries—Per chest, $3.50@6.

Strawberries—Per chest, Long worths, $4@6; large varieties, $3.50@5; Santa Clara, $4@6.

Huckleberries—Per lb., 5@8c.

Cranberries—Cape Cod per bbl, $8.50@9.50; Oregon, per box, $3@3.25.

Citrus Fruits.

Citrus Fruits—Per box: Oranges, Valencias, $1.50@4; Lemons, $4@4.50; Limes, $4@4.50; Grape Fruit, per box, $2@3.

Vegetables.

VEGETABLES—Tomatoes, per box, 25@65c; Green Peppers, per box, Chile 25@50c; do, Bell, 25@50c; Okra, per box, 35@50c; Beans, per lb, green 2@2½c; do, Wax, 3@4c; Lima, 1½@2½c; Garden Peas, per lb., 3@4c; Cucumbers, per box, 50@75c; Summer Squash, per box, 65c@$1; Egg Plant, per box, 35@50c; Garlic, per lb., 5@5½c; Green Corn, per sk, 50@$1, per crate, 75c@$1.25; Marrowfat Squash per ton, $10@15.

POTATOES—Per ctl: River Bur-

banks, 50@70c; Salinas Burbanks, 75c @$1.15; Early Rose, nominal; Garnet Chile, nominal; Sweet Potatoes, Merced, $1.40@1.55.

ONIONS—Per sk, Yellow, 60@75c.

Dried Fruits.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Prices per lb, f o b Fresno, are as follows: Bleached Thompsons, Seedless, extra fancy, 10½c; fancy, 9c; choice, 8c; standard, 7c; Bleached Sultanas, fancy, 7c; choice, 6c; standard, 5½c. Prices are for 50-lb cases, f. o. b. discount of 1½ per cent for cash.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Hops.

The price of desirable old crop is nominal at 12@14c per lb., according to quality.

Beans and Seeds.

BEANS—Prices per ctl for choice selections of new crop stock: Large White, $2.25@2.40; small do, $3@3.25; Pea, nominal; Limas, $3.60@3.85; common shipping points, $3.25@3.50; Red, $3@3.50; Pink, $2@2.35; Bayos, $2.75@3.25; Blackeyes, $3.75@4.25; Red Kidneys, $3.50@3.75; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $2@$2.25; Green $2.25@2.50; Field, $1.75@2.25.

Live Stock.

CATTLE—No. 1 Steers, 6½@6¾c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5½c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c, Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3¾@4¼c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $10@15.50; Wheat and Oat, $10@14; Oat, $8@12; Barley, $8@11; Clover, $7@10; Alfalfa, $6@9; Stock, $5@6.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $23@24.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26.50@29.50.

GROUND BARLEY—Per ton, $22.50@23.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

Flour and Cereals.

FLOUR—Net cash. Family Extra, $4.80@5.10 per bbl; Bakers' Extra, $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice No. 1 Feed, $1.06¼@1.08¾; some fancy grades up to $1.10; common to fair, $1@1.05; inferior grades, 90@97½c; Shipping and Brewing, $1.10@1.12½; Chevalier, $1.10@1.20.

OATS—Good to choice White $1.37½@1,45; Red, $1.35@1.50 for choice to fancy; $1.15@1.32½ for common to fair; Black for seed, $1.60@1.75; lower grades, $1.25@1.55.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large, Yellow, $1.45@1.50; small do, $1.60@1.65; White, $1.40@1.45; Eastern Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.35@1.40.

CITRUS MARKETS

Lemons and Valencias are the only stocks going forward and both command fair prices in the Eastern centers when the fruit is good, but this is not always the case, some lots showing much decay.

New York.

Two cars of California fruit went at auction Friday, one each of lemons and Valencias. The latter were good and ranged from $5.25 to $5.95, while the lemons brought as high as $4.45 per box.

Five cars of lemons and Valencias were offered Tuesday, bringing $5.10@$5.80 for the oranges and $4.25@$5.45 for lemons.

The market was strong on Valencias Wednesday. Six cars were offered and brought from $3.30 to $7.90, as to grade. Lemons ranged from $3.45 to $5.45.

Boston.

Five cars were auctioned Monday, consisting of lemons and Valencias. The market was strong on Valencias and weaker on lemons, Valencias, $3.20@$4.75; lemons, $3.10@$4.65.

Only one car of lemons was offered Tuesday. They were fancy and brought $3.75 per box. Wednesday's offerings were one car each of Valencias and lemons. The Valencias were choice and averaged $3.75 per box, while lemons were steady at $4.50@$5.20.

Philadelphia.

One car of lemons and one of Valencias were offered Monday. The latter was poor stock and brought $3.00, while the lemons, high grade, brought $4.85@5.55.

Two cars were sold Tuesday, lemons bringing $4.70@$5.25, and Valencias ranging from $3.25 to $4.60.

Citrus Shipments.

Total shipments of citrus fruit to date are 29,334 cars, of which 4251 cars were lemons.

Too late for publication this week was received a lengthy notice of the important meeting of the State Commission to select a site for the State Pathological Laboratory and Experiment Station. The meeting has been called by Gov. Pardee to meet at 1:30 p. m., Thursday, October 12th, in the assembly room of the Chamber of Commerce at Los Angeles. The location is confined to one of the seven southern counties and all individuals and communities interested are invited to present their suggestions through the secretary of the commission, Victor H. Henderson, Berkeley, Calif. It is presumed that every one interested, who can be present at the meeting in Los Angeles, will be on hand at the time and place mentioned.

HIGHER PRICES FOR ORANGE TREES.

Inquiry develops the fact that the enormous supply of nursery orange trees has been greatly reduced during the past few years of low prices and that this year strictly high grade trees will probably command higher prices than for several years. This will be true especially of Valencias, for which a heavy demand is anticipated. Of navels there is a greater supply but with fair demand even they will certainly command more than last year.

We heard recently of one orchardist who had already placed his order for 22,000 trees. From this and other orders we take it the wise buyer is already selecting his trees.

At a meeting of the State Board of Public Works, held at Sacramento Saturday, it was decided to commence work building dykes along Sherman Island to protect it from the overflow, the people owning the land to co-operate with the State and bearing half of the expense, which is estimated to be $12,000.

Manager Kyle, of the cannery at Visalia, announces that that company has put out one hundred and seventy-five cars of canned fruit this year, this amount being far in excess of what was anticipated at the beginning of the season. For several weeks past this company has been paying out $2600 weekly for local help.

BUSINESS HUMMING.

The Cultivator man dropped into the manufactory of the Stearns Gas Engine Works a few days ago and found hard work to get any attention from the busy people engaged in putting out the engines for pumping plants and other farm purposes. Mr. Stearns, Jr. with a helper was busily engaged in testing a big twenty-five horse power just ordered out of the shop and the senior member of the firm was busy looking over the setting up of a large number of smaller engines. The twenty-five horse power undergoing the test was destined for a large Oxnard bean thresher and the object of the test was to see whether she would come up to the full twenty-five horse power. It had only been in running for a short time and the brake was just beginning to "smoke" nicely when the writer arrived. When it was in full motion, watch in hand, Mr. Stearns soon began counting revolutions and watching the indicator on the brake. When he had finished and the attendant took up the same task and a few minutes figuring showed she indicated 25.96 horse power. This was a satisfaction and Mr. Stearns further informed us that when she had run part of a day and smoothed down the bearings, a much higher increase might possibly be made.

As to the orders for this California house, the shops are now way behind and pulling every effort to get out the engines ordered. Besides the Oxnard order, two big jobs at Burbank, one at Coachella and others were referred to. We remarked that the year must be a satisfactory one to the establishment and Mr. Stearns simply answered "best ever."

BURN AIR.

California is long on its supply of air and if it can be turned to good use for heating and cooking purposes, it will be money in the pockets of us all. The Hague Domestic Oil Burner people say that this is exactly what their burner does, uses far more air than it does oil. This burner is said to be one of the most effective and economical of oil burners and so simple in its making that there is absolutely nothing in it to get out of order. And as to its working, simply turn the crank, touch the match and the fire is on. It is so constructed that with the large inlet of air the combustion is perfect so that there is almost no soot deposited in the stovepipe or chimney. The advertisement for the burner appears in this week's Cultivator and to one who is interested in cheap fuel it should be interesting reading.

YARDS MATING UP.

The season for thoroughbred poultry has opened earlier this year than usual. J. T. Davis of Pomona informed us recently that he has already mated up some of his yards and as fast as possible filling orders in which he is already greatly behind. Mr. Davis' White Rocks are beauties and he regrets that last year's demand took too many of his eggs so that his supply of stock this year is lower than he wished. He has no pullets for sale but will dispose of a few choice cockerels.

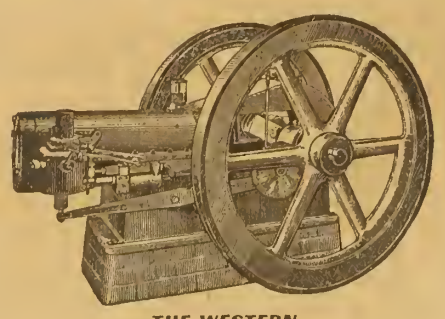
From the Nitrate of Soda Propaganda, Wm. S. Myers, director, 12 John St., N. Y., has been received a handy little book, "The Globe Trotters' Dictionary," of which a limited edition has been printed and those of our readers who care to receive a copy will be furnished one, free, while they last. Address, as above, by letter and mention the Cultivator.

The American National Bank of San Francisco, under its present management, has made a wonderful growth since 1902; in March of that year having deposits of $387,728.70 and Sept. 15, 1905, three and a half years later, deposits of $5,066,660.78.

Wm. B. Dean of Los Angeles, manufacture of Dean's Pacific Incubator, has issued a very neat booklet covering the excellent points of his popular and successful incubator. From the testimonials of prominent and successful fanciers freely given we are led to believe it will pay any poultry raiser to write Mr. Dean for booklet, prices, etc.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST

MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P.

CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED

BURNS CHEAPEST FUEL

BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.

908 to 932 No. Main St., Los Angeles, Cal.

SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE

WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir

Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.

313 N. LOS ANGELES ST., LOS ANGELES, CAL.

Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

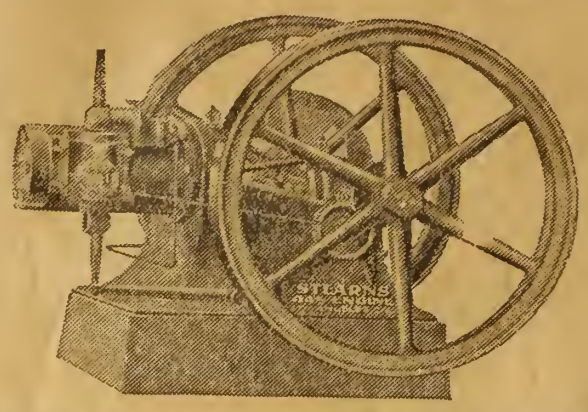
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

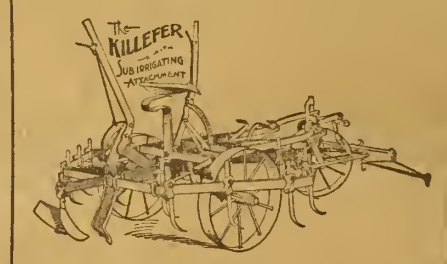
ROOFING SHEATHING BOX LINING TRAY PAPER for Drying Fruit and FLUME LINING — PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 380 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

205

California Cultivator

LOS ANGELES SAN FRANCISCO

OCTOBER 13, 1905

AN IDEAL COUNTRY HIGHWAY.

The practice of planting roadsides with eucalypts or other suitable trees cannot be too highly commended. In winter they prove a protection from wind and rain; in summer they provide a cool, shady and pleasant drive, preventing the roadbed from drying out, thus reducing dust and sprinkling to a minimum; making oiled roads cooler and frequent re-oilings unnecessary. Added to this is a considerable fuel value obtainable once or twice in every decade.

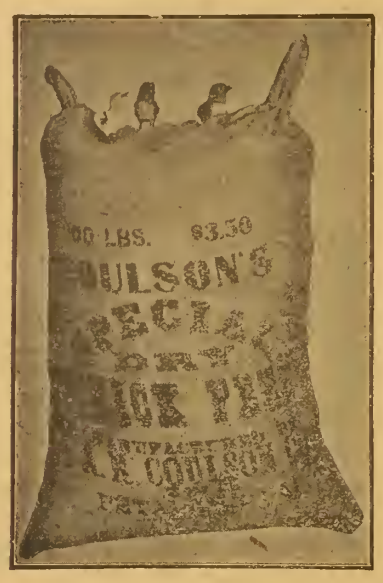
CIRCULATION EXCEEDING 10,500

$500.00! What About It?

Look for a Little Envelope in the 100 lb. sacks of

Coulson's Special Dry Chick Feed

FOR LITTLE CHICKS AND TURKEYS



You will have the best success you ever had in raising chickens if you will feed COULSON'S SPECIAL DRY CHICK FEED. Send for sample. It's good for turkeys as well.

This Chick Feed is composed of small pieces of cracked grains, also a variety of seeds and small pieces of charcoal, meat and bone. It therefore contains a variety of the best and most wholesome ingredients in the right proportions to promote the growth of chicks and turkeys and fully nourish them so they will reach maturity early, and be vigorous, strong, healthy birds.

ECONOMY IN USING COULSON'S SPECIAL CHICK FOOD.

By a series of tests it is found that chicks will gain weight much quicker on COULSON'S CHICK FOOD, and at less cost than those fed on grain.

Chicks fed on COULSON'S CHICK FOOD will reach the weight of two pounds a month sooner than those fed on grains, and they will reach the average weight of three pounds eight weeks sooner.

It is the knowledge acquired through patient study and keen observation which enables us to give the proper feed to poultry in order to raise the largest percentage of the chicks hatched. With COULSON'S SPECIAL DRY CHICK FOOD and COULSON'S GROWING CHICK FOOD many succeed in raising from 95 per cent to 98 per cent of the chicks hatched and you can do as well. TRY IT THIS YEAR.

Mr. Poultryman, there is only one way to buy, and that is, on record of what you want. If you want to raise lots of good chicks, buy good feed.

COPIES OF LETTERS RECEIVED.

I have fed your Chick Feed since I started this place about September 1st—last—and have sold 3,400 chicks and have 800 on hand now.

A. Mc HORTER.

I like your Special Chick Food better than anything I have ever used.

MRS. GEO. THISSELL, Jr.
Winters, Cal.

I have used your Special Chick Food since last March, and am still using it (July 7th). I believe it to be all right. I have lost less chicks than other years. It is good—the best I ever bought.

R. A. WHITFORD.

$500. What about?

I had read so much of your incubators that I thought I must try one, and I am more than pleased with the one I bought. I have also tried your Chick Food and think it fine. I have to go twenty-two miles to get it.

MRS. MAY LYMAN,
San Bernardino, Cal.

I have used your Special Dry Chick Food and recommend it to all my neighbors. MRS. IDA L. PARKER,
Eureka, Cal.

I think your Chick Feed is fine. I never lost one while I fed it, and never saw chicks grow so fast in my life.

MRS. HATTIE DEAN,
Mesa, Washington

BEGINNING LIFE ON COULSON'S CHICK FOOD.

TEN WEEKS OLD CHICKS RAISED ON COULSON'S CHICK FOOD.

Our chicks are doing splendidly on the Special Chick Food. No losses except by accident.

J. HUNTER.

COULSON'S FOOD GIVES BEST RESULTS.

I am a user of Coulson's Chick Food and have raised 1100 chicks this winter. The first hatch I used some other food and lost over sixty. My second I raised on COULSON'S CHICK FOOD, according to directions, and lost only 10. Then in my third hatch I fed COULSON'S CHICK FEED—dry—three times a day for three weeks, and out of 394 chicks, I lost only two, and all are doing fine. Now chicken raisers in this locality are wondering at my success, and I am praising COULSON'S FOOD as much as I know how.

(Signed) F. E. HEUSEL,
Half Moon Bay, Cal.

We receive much praise for this Special Chick Feed for it pleases the poultrymen and it pleases the chicks.

Many of the large poultry raisers near Petaluma purchase the Special Chick Food by the wagon load.

COULSON'S CHICK FOOD.

Contains ingredients that long experience in poultry raising has found best adapted to give nourishment to growing chicks. It is promptly digested; causes no indigestion; keeps bowels in normal condition. Chicks show increase in weight, strength and beauty when fed it exclusively. Little chicks need no other food for the first five or six weeks. Save your chicks and make good profits.

Keep them from bowel trouble and all ailments incident to the first five weeks. Profit lies in the chicks you raise to maturity—not in the number hatched. Give them a ration that makes healthy, well developed bodies.

Remember Mr. Bassett sold broilers only six weeks old for $3.75 a dozen. They were fed on Coulson's Chick Food

$500.00. Look for Little Envelope in 100 pound Sacks

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 15 LOS ANGELES, CAL., FRIDAY, OCTOBER 13, 1905 Subscription $1 a Year

For Village and Country Improvement

By Major E. A. Routhe, Alhambra

One of the first things of consideration in civics is the standard of citizenship. First of all, this standard should be based upon intelligence and character. These qualifications taken together with the fact of being a freeholder, inspires an interest in public affairs, beyond that of the floating class. The freeholder is the permanent factor and should be more public spirited and should fel a greater concern in the affairs of the community than those who have no fixed place of abode. There is nothing that does more to promote the stability of good citizenship than the owning of the roof-tree that shelters the family; therefore, every good man should be induced and encouraged to secure a permanent holding. Permancy of location begets stability.

The secondary purpose, not less important, is to create and to cultivate a spirit of mutuality—a well-defined comity of interest. Next: to safeguard against mismanagement, imposition and corruption, to minimize the evils resulting from the operations of political parties, by freeing local questions from state and national issues and to aid in all works of reform and betterment. These things,however, do not necessitate a radical change in our traditional views of party work and responsibility. Efficiency and honesty should be the test-mark of the ones chosen for the conduct of public affairs. The operative life of a rural community, a village, town or city, should be conducted on broad lines for the promotion of health, comfort, morals and pleasure.

To do these things with liberality, without extravagance, is the problem that confronts us. In the things essential from the material standpoint, are good roadways, good sidewalks, good buildings of comely structure, good drainage, tree planting, public libraries, public baths, public drinking fountains for man and beast, public parks and plazas.

We have notable examples of good management in city and town government in many instance. Dresden affords perhaps the best illustration of municipal management in city life. Edinboro is the next. In those places the tenure of office is during good behavior and capability. Nothing intervenes in the life of the efficient official but sickness, death or misbehavior. Excepting in an office-seeking community or country, this system should certainly be regarded as satisfactory. Such a system eliminates these public places from politics, insures honesty and economy, and gives such dignity of character to the occupant of a public trust, as to place him beyond want and to assure him of the best social standing—a thing that is especially dear to the heart of every self-respecting man and his family.

The best instance of village govern ment, in this country is beyond question the town of Brookline, Massachuesetts. It is where Benjamin F. Baker was city clerk for 50 years. The present treasurer has had the custody of the public moneys for more than twenty years. The president of the local assembly of selectmen has occupied his place for 36 years.

A Rural Roadside.

Brookline has a simple form of government by direct legislation, in which the voice of every voter is heard. It is where the referendum principle is employed. It has proved practicable and satisfactory and by its use much friction and bitterness have been avoided. This village, as we call it, contains 20,000 souls and its record is free from "leaks," or any hint of graft-scandal.

A distinguished writer in commenting upon Brookline says that the standard of intelligence in that place is very high, and public spirit and pride in home government are quite pronounced. The best people are ever ready to give their time, thought and best energies to any work which public sentiment calls for, and to which the voters have given approval. These instances of urban management are cited as testimony in favor of simple methods in the matter of public service.

A good feature in the work of promotion is to have a committee of ten or more progressive, thoughtful and broad-minded persons, to act as a sort of advisory board to aid in friendly council the official legislative body, without undue interference, unless it is to engage in the innocent diversion of smashing municipal machines devised for the favored few; and from an ethical standpaint, to teach the graft of honesty.

The intelligent observance of the laws of hygiene is important. The best methods of drainage both by sewer and by well prepared surface drains, should be adopted. In the improvement of streets and alleys, means should be employed for the adoption of the best methods. The better that driveways and sidewalks are constructed, the more easily and cheaply will they be maintained. The establishment of alley-ways is a wise provision. By these, the delivery of all kinds of commodities for use and consumption is facilitated without disturbing travel upon the streets. They afford a place for poles with wires and for laying sewer mains. In Paris, Dresden and Edinboro, no one sees piles of packages and cases of merchandise upon the side-walk. All goods are taken in at the rear. Sidewalks are used exclusively for the use of pedestrians. Ambitious tradesmen cannot place their wares in the paths to show that they are still doing business at the old stand. Next to the improvement and care of the streets is the lighting and beautifying of them. A system of uniformity should be observed. An agreement or rule should be adopted, by which only one or two kinds of trees should be planted upon a street. Say, acacias upon one street, umbrella trees upon another, palms upon another, and so on. Vacant lots should be kept free from debris, and the burning of trash upon private premises should be prohibited. No one should consider that he had a right to fumigate an entire neighborhood after that style. Encouragement and assistance if necessary should be given to every occupant of a home, whether owned or hired, to beautify it with plants and flowers. Every public place should be likewise beautified, and with bits of art as well. Art is one of the flowers of civilization. Statues, arches and the towering peristyle should have their places in our parks. The stately and ornamental entrances to the finer residental places —such as may be seen at Los Angeles in Chester Place, St. James Park and Westmoreland Square, greatly enhance the beauty of a city; and would not be out of place in a village. There is so much to be said concerning this feature that it requires more than would be profitable on such an occasion as this. Provisions for a landscape gardener for a village community would be a good stroke of public economy. The tidiness, nicety of arrangement, the conversion of things of utility into things of beauty, all stand as indices of effective energy and refinement. We rise to a stature that dwarfs the old ideals. The effect of these rare pictures of still life is pleasingly impressive.

Reverting to the special subject of street improvements, the element of expense stands in the foreground for first consideration. The cost and maintenance expense are features which the tax payers view with apprehension bordering on alarm. The narrowing of the driveway space in residence districts is finding favor in many cities. A writer in the Portland Oregonian upon this subject, says that Minneapolis has recently been experimenting in this line and is pleased with the result. He says:

"The question of cost was calculated well before the change was made and it was discovered that the amount saved by paving 24 feet instead of 30 feet wide, assuming paving, curb and gutter to cost $2 per square yard, is $7,040 per mile. Every foot that the paving is narrowed saves $1,173 per

(Continued on Page 358)

California Horticulturally

By John Isaac, Sacramento, Cal.

A FUNGUS DEATH FOR GRASSHOPPERS.

An important discovery is reported from Los Banos, where a farmer discovered that grasshoppers were dying in great quantities, apparently from some fungous troubles. He gathered up a quantity of dead hoppers, ground up their bodies and mixed them with bran, which he fed to the living insects with fatal effect. This is an important discovery if true, and we would like to see it tried early in the season when the grasshoppers are a real pest. At the present time their season is over and they may be dying off from natural causes which the observer may have mistaken for some epidemic. A proper test should be made of the matter, however, and the diseased—and deceased grasshoppers should be carried over the winter months, the fungus which has attacked them be carefully cultivated until spring, and then its effects should be tried on the young and vigorous hoppers who have not yet grown tired of life and are ready to give up its burdens without extraneous assistance. The Agricultural Department at Washington carried on a series of experiments with fungous diseases for grasshoppers some years ago, but it was largely a failure, as the conditions where the great grasshopper invasions occur are unsuited for the fungus. Fungoids as a rule thrive best under moist conditions, the grasshopper does its best in arid conditions, and while the fungus was found to work all right under proper conditions of moisture it was a failure in the arid sections where the bulk of the grasshoppers were to be found. It was an easy matter to carry the fungus to the grasshoppers but when it was found necessary to remove the grasshoppers to a section where climatic conditions were suitable for the fungus to act, even Uncle Sam balked at the job.

* * *

A NEW STRINGFELLOW THEORY.

Mr. Stringfellow, the man who has acquired a great deal of notoriety in the East from what has been called his "method," a method which has been described as the cutting away of all the roots of a tree and then all the top and planting the label, is now out with a new theory, and that is, that orchards should not be cultivated. His idea is that tree holes should be dug in the wild sod, young trees with their tops and roots cut away be stuck in such holes and then left to yield big crops. We do not know how such a process would work in the sections where Mr. Stringfellow operates, but certainly in California nothing would be left but the dry sticks to mark the places where they had been set. We believe Mr. Stringfellow organized a company to plant an orchard after his plan in Texas. The result was a failure, but this was not on account of anything out of place in the theory, but was due to other unfortunate causes. The Stringfellow foolishness has not reached California, so we continue to prepare the soil carefully for our new orchards, and see that our young trees have some roots to support the tops. And after they are started we carefully attend to them and cultivate and irrigate and care for them just as long as we desire returns, and in spite of the peculiar Stringfellow theories we have found that it pays in results.

* * *

FRUIT GROWING PAYS.

The question is often raised whether fruit growing pays. This depends upon two things, the man and the land. Given both suitable, and the question may be answered in the affirmative. It has been so decided by J. Q. A. Ballou, of Santa Clara county, who states that from twenty acres of peaches this season he has disposed of 100 tons of fruit which netted him $47.50 per ton or $4,750 for his orchard, being $275.50 per acre. Fruit growing surely pays at such figures.

THE VALUE OF THE OLIVE.

In a recent letter to the Fresno Republican upon the food value of the olive, Frank Eberle, an excellent authority and a close observer, says:

"The food value of the olive is not yet fully appreciated by the people of America, but California, the great olive growing State, has started a crusade of education to teach the public how to use this wonderful fruit.

Both at the St. Louis Exposition last year, and at the Portland Exposition this year, California has been giving the world some useful information about the olive and other fruits that flourish in the Golden State. At the booth of a big California olive grower, in the Agricultural building at the Portland Exposition, ripe olives are given away to visitors, and many persons here see a ripe olive for the first time. At all California receptions at the exposition, and they are numerous, ripe olives are served to the guests. The State that grows the olive is teaching all America to eat the olive and to freely use the rich oil it produces.

Olive oil is one of the best vegetable fats, which in chemical composition, in nutritive value and use in the body, corresponds with the best corn-fed beef, without taxing the digestive organs as the latter does.

Olive oil is in a state of natural emulsion, ready to be digested promptly without the possibility of interfering with the digestion of any other food.

Pure olive oil is the perfect analogue of meat, and its value is beginning to be more generally recognized throughout the world. It has been observed that those who live upon olive oil as a common article of food are generally healthier and in much better condition than those who do not, because it contains more proteids and albumen than beefsteak. Two tablespoonfuls of pure olive oil contain more nourishment than one pound of meat or a cup of butter, without taxing the digestive organs.

The introduction of ripe olives to the market in America is of comparatively late date. The ripe olive as a very nourishing food has long been used by the Orientals. The Italian reserves his best ripe olives for home consumption, where they are a part of the daily diet, and are consumed in large quantities, taking the place of meat. Travelers in Palestine have been surprised at the power of endurance of their Bedouin guides, who live solely on ripe pickled olives, and hard, black bread, and endure the longest and hardest marches, apparently without effort or effect. In countries like Spain, Italy and Greece, the ripe olive is a staple article of food. Workmen toil hard all day on a ration of black bread and a handful of ripe, pickled olives, and keep in fine physical condition on this diet. All this may be taken as evidence of the highly nutritive qualities in the ripe olive.

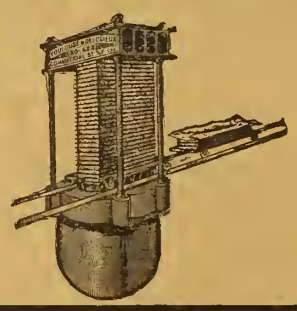
In California, the ripe olives are prescribed in hospitals by physicians for the sick and convalescent. The oil blended with the salt in the pickle forms an appetizing digestor which stimulates secretion and builds up the appetite. Those who are posted never restrain their children from eating the ripe olives, knowing that they are more nourishing than meat, are easily digested and contain none of the dangerous heating qualities which accompany meat diet.

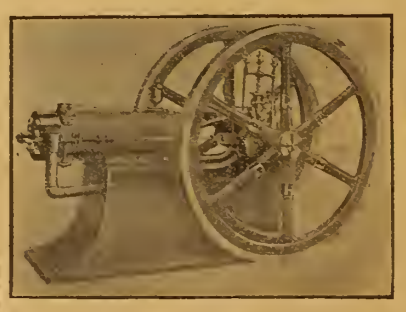
The imported green, or queen olive, is nothing more or less than an unripe, undeveloped and indigestible pickle. It is pickled and shipped from its native home in that state simply because it lends itself better to long transportation than the ripe olive. There is no nutrition in the green olive and physicians claim that when eaten in large quantities, especially by people with weak digestions, much harm is done by this indigestble, unripe article of food. The producers of these green olives know that the natives of Italy, France and Spain would not think of eating them, hence they are only put up for the foreign market as a commercial commodity. Americans must look to California for a healthy, palatable, sanitary article when they want a good olive. The food value of the green olive as compared with the ripe can be likened to that of a little, green apple to a rich, juicy, ripe one. According to olive experts, ripe olives and olive oil should not be considered as an occasional delicacy, but should form a part of the average diet and be considered a household necessity.

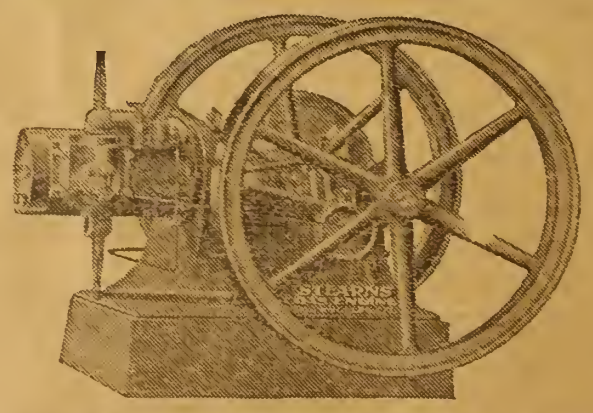
The demand for this commodity is constantly growing, which is a pleasing indication that the food value of the ripe olive is becoming better known and recognized, and doubtless the day will come when the green olive will be banished from the American table and the ripe California olive will be served in its place.

At the Lewis and Clark Exposition the olive is presented to the public in its most appetizing aspect, and California is doing a good work by seeking to introduce the ripe olive as a food for Americans."

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

WINE AND OIL MACHINERY

A SPECIALTY
Presses for All Purposes.
Complete Plants Fitted Out.
TOULOUSE & DELORIEUX
618 Commercial St. San Francisco
Catalogue Upon Application

TRIED FOR MANY YEARS

And now stands without an equal. That is the verdict of many who have used the
WHITE & MIDDLETON ENGINE
Complete Irrigation Plants Installed.
Estimates gladly given,
Wm. Gregory
602 North Main St. Los Angeles, Cal.

STEARNS GASOLINE OR DISTILLATE ENGINE

Has many points superior to any other engine.
Hundreds in Use
Every One Satisfactory
Built for California cheap fuel.
For further information, write
STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET · LOS ANGELES, CALIFORNIA
When writing advertisers mention Cultivator.

CHARACTER OF BEES VARY.

There is a wonderful variety in the character of the bees in the different colonies even in the same apiary and of the same race. This difference shows itself in many ways, especially in the degree of excitability, energy and activity, and in the disposition to pass beyond the limits of the brood nest into a surplus apartment above. In selecting bees, no point is more important than that those should be chosen that enter willingly upon work in the supers. The Italian race or German race or crosses in which black blood predominates are superior. The most preferable of all is no doubt the Italian bees; they show great energy in gathering honey and are good in the defense of their hives against moth larvae and robber bees. They are more gentle than either the blacks or Cyprians and can be handled fairly well by the novice. They are quite prolific, handsome in color, having yellow bands, but must be well protected in order to winter well.

If you work for comb honey the problem of keeping down swarming with its consequent increase is a very difficult one. Large hives may do something toward it, but in spite of all you do the bees are likely to swarm. Perhaps the best way to do is to count on having the bees swarm once. Hive the swarm on the old stand, setting the old hive a little to one side to make place for it. In five or seven days remove the old hive to a new location, perhaps ten feet or more away, and the result of this removal will be that all the field bees from the old hive, when they return from gathering in the fields, instead of returning to the old hive, will go straight to the spot where it formerly stood and join the swarm. The swarm thus strengthened will give you the crop of honey and if the season is very good there may be some yield from the old colony, especially if there is a fall flow. If you want to get the most comb honey from your bees, hive the swarms on starters. Put only four frames in the new hive, with inch starters in them and a division board on each side, set the super from the parent hive, bees and all, into the new hive and hive your swarms into it. As they have nowhere else to put the honey it must of a necessity go up into the sections. The new hive should occupy the old stand so as to catch all the field bees which happened to be out at the time the swarm issued. In the course of three or four weeks the four frames will be occupied with brood, when the remaining space of the brood nest should be filled with frames of combs, or full sheets of foundation; if more starters are added too much drone comb will be built in them. By this method we have had a number of swarms fill and cap a super of twenty-eight sections, in two weeks and a half fill the second super. If the honey flow continues we count on a super every two weeks. Bees left to themselves will generally send out one swarm in a season, often sending out a second swarm, sometimes a third. In our own practice we always have supers partly full of empty comb and this makes the giving of room to the bees much more practicable than when empty sections are given, for there need be no delay in the work, no waiting on the builders, no hanging in clusters while the honey is waiting in the fields. The young bees then, do most of the comb building. Bees swarm because the circumstances do not suit them, they are ill at ease and lack sufficient room. If we do not wish them to swarm, we must give them sufficient room. A loose bottom board enables the beekeeper to raise the hive up whenever needed and to give as much space for ventilation as may be necessary. Drone rearing is a factor in swarming. In nearly every instance the colonies that swarm are those that have reared quite a large number of drones. A certain percentage of colonies will swarm in spite of anything that may be done. You must bear in mind that it takes but little to induce swarming during a good honey harvest. When moving bees during hot weather give them plenty of ventilation. The hive cover should be removed and a cover of wire gauze be placed on the hive. Better still, if the bees are to be moved any great distance, make a rim just the size of the hive and about two inches deep and tack the wire netting to this. The space between the top bars and the wire will give the bees a space to cluster and expel the heat and prevent the combs from melting down. Bees become very much excited and overheated when shut in and if possible should be moved at night. To make them still more comfortable, place on top of each hive a wet sponge and drive slowly. Our attention in the future should be given more to the practical management of bees, to reduce the labor and expense to the minimum and the more the work is simplfied, the more we shall feel that we are advancing. We believe that "mixed farming," so to speak, in the apiary will prevail in the near future. Better results are obtained from working for both comb and extracted honey and even a queenless nucleus can be made to care for extra queen cells. If the manipulation of bees shall be as much improved upon in the next half century as the general knowledge and appliances have for the same length of time in the past, we can but wonder what beekeepers will be doing fifty years hence.—Breeder.

The universe is not complete,
Without my work well done.
—Wm. C. Gannett.

BEES.

The bee and honey industry of this country is one that deserves to be encouraged.

It is held as an outcome of careful investigation that the flowers on hand could give employment to ten times as many honey bees as we possess.; though even as the matter stands the value of the products of the apiaries of the United States is put at between twenty and thirty million dollars.

All this is done with but little labor on the part of man, and no lessening of the value of the soil. We but direct the force, taking care that it is guarded from harm, and our reward is a large part of the returns.

These wonderful little beings of finely directed industry confer benefits not only as indicated, but it is further the fact that without them the amount of some of our best fruits would be seriously reduced.

It thus appears that in proportion as farmers and gardeners learn to make every edge cut the number of people engaged in the honey bee industry will increase. We should not merely lead every other nation in this respect, as is now our distinction, but the purpose ought to be to make full use of this particular good that is ours almost for the taking.

A reliable statement which we find made on the subject is that the greater part of our supply of extracted honey is from Arizona and California, and that New York, Pennsylvania and Vermont are in the foreground in looking after the comb article.—Farm and Home.

FEEDING.

Regarding feeding bees we note in an exchange:

The best food which can be supplied needy colonies is honey, of course. Where super frames are interchangeable with those in the hives, it is an easy matter to substitute full frames from the super for light ones in the hives. Another good way is to place supers containing unfinished and partially filled sections, over the hives. The bees will usually proceed at once to remove the honey from the sections, and deposit it in the combs below. Or they may be given extracted honey or sugar syrup by means of some good feeding apparatus, preferably honey, when it can be had that is absolutely free from foul brood contagion. But rather than risk honey about which nothing is known, I would feed sugar syrup. Bees will ordinarily winter well on sugar, especially if there is some honey to use with it, and if anything must be bought expressly for the purpose, sugar is probably quite a little cheaper.

IT'S PENNY WISE

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow St., Los Angeles.

"The Recollection of Quality Remains Long After the Price is Forgotten."
Trade Mark Registered.

"Old Friend Tools"

Every man feels a certain pleasure in the use of good tools. He knows that he can depend upon them to do their work and do it well. In time a man will become attached to a good tool as to an old friend, so in sympathy do they seem to become.

Keen Kutter Tools are the kind of tools that become old friends. They are the dependable, long-service kind.

There is neither economy or satisfaction in using poor tools, they are brittle and break easily, or they are soft and require constant sharpening, and they finally have to be discarded long before good tools would be worn out.

There is economy and satisfaction in buying Keen Kutter Tools because every Keen Kutter Tool is the best that brains, money and skill can produce.

Keen Kutter Tools have been the standard of America for 36 years and were awarded the Grand Prize at the St. Louis Exposition, the only prize of the kind ever given to a complete line of tools. The name Keen Kutter covers a complete line of tools so that you may buy any kind of tool with assurance of absolute satisfaction.

When, for instance, you buy a bit be sure to get one bearing the Keen Kutter name. Made in all leading patterns, highest quality of steel, finest finish and with long cutting lips, insuring long life.

Some of the other kinds of Keen Kutter Tools are: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Eye Hoes, Trowels, Pruning Shears, Tinners' Snips, Scissors, Shears, Hair Clippers, Horse Shears, Razors, etc., and knives of all kinds.

If your dealer does not keep Keen Kutter Tools, write us and learn where to get them. Send for Tool Booklet.

SIMMONS HARDWARE COMPANY,
St. Louis, U. S. A. 298 Broadway, New York.

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MO. MARK

KEEN KUTTER

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MO. MARK

IF PUMP YOU MUST
Why not pump at a profit?
Write A.T.Ames, Galt, Cal. for illustrated Catalogue

DWARF APPLES AND PEARS.

Apples and pears are successfully grown on dwarf stocks, are desirable for a garden, and bring fruit the second year from planting. Apples are dwarfed on Paradise and Ducine stocks and we prefer the latter. Paradise roots are very susceptible to wooly aphis and the trees are very much dwarfed. Ducine makes a little larger tree. All kinds of apples do well on these as far as we know. Pears are dwarfed on quince, but there are but a limited number that seem to thrive as dwarfs. Among these are the Duchess D'Angouleme, Easter Beurre, Winter Nellis, Colonel Wilder and Patrick Barry.

Standard trees do well trained against a wall or the side of a building. We prefer large growing trees where there is wall space enough to accommodate them. They may be trained flat against the wall and thus occupy very little space, where they will produce a large amount of fruit. We would place them on the north or east sides in preference to south or west for the reason that the reflection of heat from the sides during the hottest time of the day might burn the trees or fruit.

HEALDSBURG PRUNES FOR GERMANY AND LONDON.

The fruit packing season has only commenced a few weeks ago and Sheriffs Brothers are inclined to feel good over their pack so far. Up to Friday a total of twenty-one cars have left their packing house here. The company are employing about fifty hands and on an average of a car a day is being turned out.

The shipments so far include ten cars to Germany and six cars to London, and the remaining five cars have been shipped to New York. Things are busy around their packing house just now and will be so for the next six weeks. Over sixty cars of twenty tons each will be forwarded before the close of the season.

The pay roll of the company is averaging over $500 a week, quite an item to the business interests of this place. Before the close of the season the company expect to pay out over $100,000 to the prune growers of this vicinity.—Enterprise.

A CALIFORNIA PRUNE GROWER IN LONDON.

Our prunes, I regret to say, are discredited. At the Army and Navy Junior Stores, Regent Street, London, where an immense business is done, I saw no prunes from California, and inquired why. The stores had ceased to buy them because they came to hand mouldy. "You do not mean sugared?" I inquired. "No, mouldy!" Visions of prunes, hot and steaming from the dip, jammed into boxes in the Santa Clara valley, as I have seen them, marveling, floated before my eyes.

"You may fool some of the people all the time, and all the people some of the time, but you can't fool all the people all the time." Packers, remember Abraham Lincoln when you pack.

It will ultimately serve your own interest, as well as that of your grower.—Edwin Berwick in Co-operative Journal.

COLORING OF FRUIT.

As well colored fruit sells to such an advantage it seems that growers should make an effort to supply the deficiency in soils where the fruit does not color well.

Men who have a knowledge of chemical fertilizers are the ones who are able to grow the best colored fruit. It has been the practice of some growers for years to use chemical fertilizers for the improvement of both color and quality of fruit, phosphoric acid and potash being largely used for the purpose. Where liberal quantities of potash are added to the soil, either the muriate or sulphate or the carbonate of potash obtained from wood ashes are exceedingly valuable as regards fruit coloring.

BORDEAUX FOR LEAF CURL.

"Complete success in crop saving on peach trees of the Elberta variety with the normal strength of spray attended applications on April 12. This was followed by the half strength formula May 17. Trees that were unsprayed retained no fruit and scarcely enough leaves to cast a shadow in June.

Two years later similar success was secured from one application of Bordeaux mixture made in April. A careful estimate showed that 85 per cent of unsprayed trees were diseased, while only 15 per cent of those sprayed showed effect of the leaf curl. The same effects were noted on other susceptible varieties of peach trees.

Many growers have duplicated these results, and we may rely upon the full efficiency of Bordeaux mixture in leaf curl prevention."

POLLENIZING CHERRIES.

The Chapman, a cross between the Bigarreau and Tartarian, seems to have a very beneficial effect on the Tartarians, which, since they are pollenized by adjacent trees bear much more heavily. In the same way it is noticed that the Tartarians which are adjacent to a Royal Anne seem to be more productive. In fact, some large Tartarian trees were shy bearers until they were pollenized by an adjacent Royal Anne cherry tree. Since then they have been heavy bearers every year. The effect of a tree in an adjacent orchard seems to be complete for about four trees. Beyond that it diminishes in proportion to distance. These are facts worthy of being noted by cherry orchardists, who used to have a certain crop every year, but have been suffering from light crops occasionally.

A curious instance of cherries ripening in midwinter is recorded by a Berkeley correspondent to the Country Gentleman: "During the third week in January there was a most extraordinary exhibition, at the headquarters of the Oakland Board of Trade, of ripe cherries, raspberries, loganberries, blackberries and a few clusters of large red currants.

These fruits were all picked from trees and bushes growing in Alameda county gardens, and matured and ripened in the open air. In several previous years ripe raspberries have been placed on exhibition at this season, but never before, even in California, have cherries ripened in midwinter.

The first cherries sent to the Oakland Board of Trade came from the home of Irving R. Whitney of Berkeley, and were gathered on the 11th of January. Other specimens were sent in later from various private gardens and ranches throughout Alameda County. From a ranch at Fruitvale, crabapples as well as cherries were sent.

The early fall rains, followed by an unprecedented season of warmth, even for this State are responsible for this topsy-turvy state of things. The Sacramento Valley, early in November was white with cherry, plum and pear blossoms, and old fruit growers shook their heads dolorously and predicted scant crops for the coming spring. At the present writing, however, there is no cause for alarm, as almonds, cherries and plums are blossoming profusely.

TREES

ORANGE, OLIVE AND ALL OTHERS

Place orders now for delivery in time for season 1906.

Calimyrna Fig

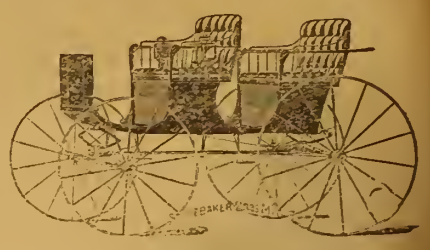
[Genuine Smyrna Fig of Commerce]
Our greatest specialty, Wonderfully Successful. The only fig fit for commercial purposes. Our Calimyrnas are guaranteed true to name and bear our seal

Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c. postage.

Fancher Creek Nurseries, Inc.
Paid-up Capital $200,000.00
Geo. C. Roeding, Pres. & Gen'l Mgr.
FRESNO, CALIFORNIA.
Growers of Trees and Vines of all sorts

A Mercury is not to be carved out of every word.

One of Many



Do you need a

Buggy, Runabout,
Phaeton,
Farm Wagon
or Harness

We carry a complete line of the famous

STUDEBAKER
Buggies and Wagons

Our prices will

Save You Money

Reports have reached us from every quarter of Californhia and Nevada of the great length of time the

STUDEBAKER
Vehicles

have been used. They last because they

Are Well Made
Everything the Best

We are local agents. Call and see us or write for catalogue.

Newell Mathews Co.

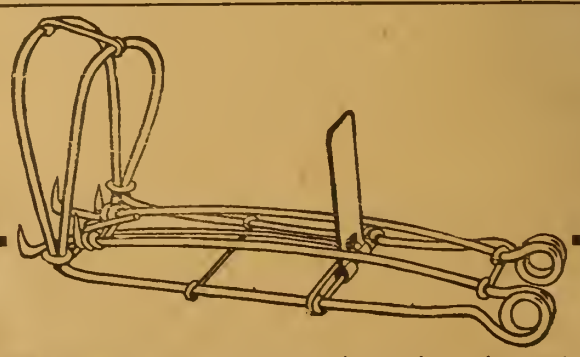
200-202 No. Los Angeles St.
Los Angeles, California

CHICO NURSERY CO.

Our Specialties:
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS

Complete Line of
FRUIT TREES
and
ORNAMENTALS
Agents Wanted

Third and Walnut, CHICO, CAL.



A GOPHER TRAP THAT KILLS. It's mighty discouraging to buy gopher traps that permit the gopher to escape after the trap has sprung. If you have used other traps you know that gophers crawl or are thrown out of them and the gopher that has been caught and got away will never be caught again. If you would take no chances with traps, you should investigate the merits of the

IMPROVED C. V. 2-RING GOPHER TRAP.

This is a patented trap, embodying all the latest improvements. It is superior to the Single ring, as well as the Clutch and Claw Traps, for the double ring disables the gopher and holds it securely, allowing no possibility of escape.

See that you get the genuine Improved C.V. 2-Ring. Sold everywhere for 25c; or if your dealer does not have them, send us his name and 25c. for sample trap or $2.50 for a dozen, which we will forward postpaid. FALLS MFG. CO., 14 Drumm St., San Francisco.

CITRUS FRUITS

By C. A. Day. Pasadena

GUM DISEASE.

Of late complaints have come from a number of citrus fruit growers of Los Angeles County of the prevalence of the gum disease in citrus trees. Some months ago this subject was discussed in the columns of the Cultivator and information given as to the nature of the disease and the remedies to apply, but for the reason that many of the readers of an agricultural journal fail to file away the back numbers, it becomes necessary to reprint valuable information when it is timely. I have had no experience with this disease in my orchard but have had my attention called to cases in my district. From published accounts it would seem that the most serious form of this disease (root-rot) is more prevalent in Florida than in California, and yet many cases of the root-rot have developed in orange orchards of Southern California.

* * *

Nature of Disease.—It is confined to the crown and main roots of the tree extending a foot or so above the ground and downward along the roots. Above the ground there is an exundation of the sap, which breaks through the bark and congeals in the form of a gum. Under the bark of the diseased portion is found a yellow sticky fluid. The disease destroys the larger roots and gradually works around the crown of the tree, girdling and eventually killing it. In many cases the tree is kept alive for some time by a narrow strip of live bark connecting a few small live roots with the top. It might be well to say in this connection that the best treatment for a badly diseased orchard is to take the trees out and replace with young, healthy stock.

The disease is said to be of a bacterial nature and infectious where conditions are favorable for its development.

* * *

Conditions favorable for the development of the disease.— As given by a Florida writer, these are as follows: Deep setting, wet soggy soil, the use of rank organic fertilizer, planting in localities underlaid with hard pan, faulty drainage, a shaded condition of the soil. Moist, damp conditions of soil are produced about the tree which in warm citrus climates is exactly suited to the development of the disease. In one case here in Los Angeles County, where the disease suddenly developed, the owner thought it due to a heavy cover crop that with unusual and continuous rains gave a moist condition around the trees. This would seem to correspond with the theory of the Florida writer. In another case an orchard irrigated by the basin system did not develop the disease until a change from the basin to the furrow system, and it then appeared on both heavy and light soils.

In the orchard irrigated by the basin system there had developed a mass of fibrous roots where the basin was made for irrigating. With the change from basin to furrow system, the sedimentary soil of the old basin immediately around the tree became hard and compact, shutting out the air from the base of the tree and the roots. It is well known that dry air is destructive to germs and the theory is advanced that the close, hard, sedimentary soil shut out the air and the germs of the disease present in the soil were under these conditions developed. There seems to be some good foundation for this theory from the fact that the removal of the soil from around the crown of a diseased tree in a measure checks the disease, even where no other remedies are applied.

In one instance an orchardist discovering the disease in the first stages, removed the soil for some depth from around the trees with the immediate effect of checking the advance of the disease.

If the disease is a form of vegetable parasite of the fungous or bacterial order it is easy to account for its rapid growth and development under conditions of warmth and moisture, and this would fit the theory of defective drainage, soggy conditions of soil, too much shade, a compact condition of the soil around the base and over the root system. In one case of gum disease that came to my notice, a group of orange trees in a slight depression at the outskirts of the orchard were diseased, and individual trees across the street were also attacked. The row of trees on the street were walnut and peach trees. I inspected one of the walnut trees thus affected and found the same diseased condition of the roots as on the orange trees. This seemed to prove that the disease under favorable conditions was infectuous and that the germs were in the soil and attacked the walnut and peach trees as well as the orange trees. The disease probably originated on the orange trees and spread to the others. The disease in this case did not spread beyond a small group of trees. Outside of this group the surrounding trees in the orchard were not affected.

In another orchard of heavy, close soil, a group of trees standing in a low place, where the irrigation water settled in considerable quantity, were affected with the disease, but on higher and adjoining ground the disease did not develop.

We have numerous instances on record where the disease developed at the lower end of the orchard where a surplus of irrigation water accumulated and probably a hard, close strata of sub-soil allowed but poor drainage. As to deeply set trees, we can readily see that with such proper conditions of soil and moisture, the disease would more readily develop than with a shallow set tree where the base and main roots would dry out much quicker than those of the deep-set tree. A superabundance of rank stable manure with a surplus of moisture might favor the development of the disease, as the effect of the stable manure is to conserve the moisture and prevent rapid exaporation.

* * *

Resistant stock.—It is claimed in Florida that the sour orange, rough lemon, trifoliate, and pomelo stocks are resistant and that the sweet orange and lemon stocks are subject to the disease.

The majority of the stock used to bud upon here in California consists of the sweet orange, and it may be due to that fact that the disease is as prevalent here, as it is; notwithstanding the conditions otherwise are not as favorable here as in Florida.

* * *

Remedy.—As in the case of pernicious insects I believe that prevention is the cheapest. I would avoid, if possible, basin irrigation directly around the trees, provide good drainage, and where the soil compacts immediately around the base of the tree and over the main root system, break it up, as dry air is unfavorable to the development of the germs. I would avoid applying stable manure close to the trunk of the trees. Where the disease is well advanced it would seem best to remove the tree and plant a strong, vigorous one in its place and remove the conditions favorable to the development of the disease.

Where the disease is not too far advanced, remove the soil from the base of the tree and uncover all roots that are diseased, cut out and remove all diseased bark and wood and scrape such parts clean, carefully gathering up and burning the scrapings.

With a brush paint the freshly cut wood with solutions 3, 4 or 5 or sprinkle No. 4 or 5 over the cut surface and adjoining soil.

Solution No. 3.—Unslacked lime 1 peck; crude carbolic acid 4 ounces; salt 3 pounds; water 2 gallons; Slack the lime in two gallons of water, then add the crude carbolic acid and stir in the salt; if too thick add a little water.

Solution No. 4.—Mix together crude carbolic acid and water, equal parts, by weight.

Caution and care must be used in applying carbolic acid as the strength of the commercial acid varies, and it must be diluted to such an extent that the vegetable tissues will not be destroyed by it.

Solution No. 5.—Mix together sulphuric acid and water in proportions of three of the former to seventeen of the latter.

It is sometimes necessary to treat more than once. Finally fill in with loose soil and sprinkle the surface with the solution.

DOING LOTS OF GOOD.

Warm? yes, extra warm for October, but just think how much good this weather is doing, both to deciduous and citrus fruit crops. Then sing praises, not mouth cuss words.—Citrograph.

THE VERNON NURSERY

4524 Central Avenue, Los Angeles, Ca.

Deciduous Fruit Trees, Grapes, Walnuts, Figs, Peaches, Apricots, Plums, etc.

Phone: South 1105 A. YARNELL, Prop.

GASOLINE ENGINES, WINDMILLS,
IRRIGATION MACHINERY,
FAIRBANKS' STANDARD SCALES,
STEAM PUMPS, DYNAMOS,
MOTORS, PIPE, CASINGS,
FITTINGS, BELTING, Etc.

MANUFACTURED AND FOR SALE BY

Fairbanks, Morse & Co., 136 and 138 So. Los Angeles St. LOS ANGELES, CALIFORNIA

When writing advertisers mention Cultivator.

DRIED GROUND TANKAGE

THE BEST AND MOST ECONOMICAL FERTILIZER

ANALYSIS { 10½ per cent Ammonia / 18 per cent Bone Phosphate

WRITE US FOR PRICES AND PARTICULARS

Western Meat Company - - San Francisco

OUR BRAN NEW GUN CATALOGUE

Will tell you how to take advantage of this sad fact. We would be pleased to send you one if you would like to have it. Address a card to Dept. "A," directing it as below and the "cat" will come to you.

CANVAS IRRIGATING HOSE

1¾, 2½, 4, 9 11, 13 Inch { COSTS LITTLE / LASTS LONG

KHAKI SUITS Faultless Fit To Order $4.50

Send for Self-Measuring Blank

The Wm. H. Hoegee Company, Inc.

Phones—Exchange 87 138-142 S. Main St, Los Angeles

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

A SONG OF THE NORTH.

Set some trees upon the commons,
Ashes, linden, poplars, birch,
Set them out around the school house,
Plant them thick about the church,
Have the children's playground shaded,
And the public walks as well,
And the joys from these arising,
Coming ages glad will tell.

A HOME FOR SIX BITS.

How many residing on bare, shabby, shadeless farms know that a restful, shady farm home may be made by the small outlay of seventy-five cents. It costs just that much for a box of one hundred sturdy young blue gums and these planted along the windy side of the farm buildings and clustered around the house to form a background will make a complete transformation of the local landscape. Where all was bare and ugly will be clothed with beauty. Instead of the house plat being hot, dry and dusty, it will be cool and inviting. That inhospitable look so common to many farms will give way before the growing trees to one of cheerful hospitality. Children and animals heretofore forced to keep in the shade of the buildings will have a natural, cool retreat in which to rest or gambol. Neighbors and passersby will say: "How improved Smith's place looks of late." Some day a searcher for a home will ask the price of the farm with the remark that it looks homelike and restful. The disease will be catching and before long the community will take on an improved appearance and the ever attendant increasing value and importance. Another two or four bits will provide seeds to plant permanent beds of flowers around the house and in the yard. Those in new or unplanted sections cannot afford to let this matter pass unheeded for a single season. Six bits or a dollar makes the difference between a farm house and a country home. Which will you have?

ORNAMENT THE YARD.

To begin with, this requires a love of nature, some time, labor and outlay of money. There are too many men who have no taste for the ornamental. The refining influence of trees, shrubs and flowers does not appeal to any of their finer sensibilities or perhaps I should say they are lacking in appreciation of the beautiful. The mothers and daughters of the farm are, as a rule, admirers of nature, but if they are so unfortunate as to have male members of the household who are wholly out of sympathy with them, they can make but little headway in ornamentation. Many women make home brighter by a little flower garden in the yard, summer and winter, or by a few house plants and are grumbled at for "foolin' away their time on such trash." Everyone of these good women, in their humble way, are making the world happier and better. Having time and means and the disposition to do the work, the proper planting of the home grounds is no easy task. There are a few fundamental principles that should always be borne in mind. The space in front of a farm house should be of ample dimension and proportioned to the height of the house. No trees, shrubbery or anything else should obstruct the view from the house to the front fence. No planting should be done in straight lines, nor should any sharp angles be made. The same rule will apply to walks and drives. The planting should be done mainly on the borders, the larger trees and shrubs in the background and the smaller plants in front. Large growing trees should not be planted on small grounds, as they are too much out of proportion. A small, neat, compact tree is better suited to small grounds.

Some people fancy a particular kind, other people prefer another kind. As all varieties cannot be grown there should be a selection of those sorts which will give the most satisfaction, all things considered.

WENLAND'S SOLANUM.

Among our more tender climbers none is deservedly more popular than the large, robust lilac-flowering vine known as Solanum Wendlandii. Its native home, Costa Rica, embraces much variation of climate and temperature from mountain snows to tropic swamps, and this plant comes from the temperate upland districts. Like most vigorous climbers, to see it at its best it must have plenty of room and a rich, light soil with copious waterings during the period of active growth. Under such conditions it blooms magnificently, surpassing all other vines in the number and size of flower heads. It seems peculiarly at home in those parts of California nearly free from frosts and when in good health, under best conditions, it is the most showy and satisfying of any climber grown in this State.

OUR BIG TREE.

Nearly all Californians know the "Big Tree" in its mature form, either through personal inspection or the ever present photograph. Comparitively few, however, know it as a decorative garden plant. It is one of the most shapely evergreens, when in a young state, that the garden holds and none in cultivation have yet grown large enough to lose an iota of their youthful beauty. They need little care and in Central and Southern California they thrive much better than their near relative, the redwood. Our illustration shows a typical growth of ten years of most ordinary care.

RURAL PARKS.

In all surburban or rural districts, park attractions are now great factors and constantly growing features of the times. They are necessities, not luxuries, not for any class or privileged few, but are priceless possessions for all the people and the one place where neither social, financial, intellectual nor political distinctions give any one citizen rights, prerogatives or privileges over another.

Our Big Tree.

DON'T PRUNE EVERYTHING.

When doing the fall pruning do not make the mistake of pruning flowering shrubs, such as deutzias, lilacs, syringas (Philadelphus), etc., for these should only be pruned immediately after flowering. Next spring they will flower from the wood made this summer and if this is cut away you will get a very light crop of blooms. Don't prune Bougainvilleas and tender vines, for if a hot spell comes afterward, a tender new growth will be induced just when the frost will catch it. Prune in the spring before the season's growth begins.

Plant the bulb beds as early as possible and keep the soil well enriched.

Strawberry Plants
300,000 Excelsior and Brandywine, from plants of R. M. Kellogg Co. last spring. Address
F. S. Lee, Pasadena, Cal. Phone Main 922

LAXTON'S NOBLE STRAWBERRY PLANTS
400,000 First-Class Plants. Prices on application
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

Blue Gums
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity
Geo. B. Warner, Santa Ana, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1287
Pasadena, Cal.

RHODES DOUBLE CUT PRUNING SHEAR
PAT.
RHODES MFG. CO.
Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.
420 West Bridge St., GRAND RAPIDS, MICH.

SEEDS
PLANTS
AND EVERYTHING FOR THE GARDEN
Theodore Payne
416 W. 7TH ST., LOS ANGELES

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS.
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

When writing advertisers mention Cultivator.

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump
This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.
BYRON JACKSON MACHINE WORKS
411 Market St. *San Francisco, Cal.*
When writing advertisers mention Cultivator.

In the Vegetable Garden

OCTOBER VEGETABLE CALENDAR.

During the month you will find all vegetable growers very busy sowing seeds. It is in order to plant the following during October: Beans, cabbages, cauliflower, carrot, lettuce, onions, parsnips. peas, radish and spinach (every month), and turnips.

You will find that it pays to work the ground over very thoroughly several times and get the soil in the best possible condition. Such treatment will save much labor through all the season and goes far toward ensuring a good crop. Some attention should be paid to rotation of crops—do not plant root crops in the same place for two successive seasons or head crops either. Aim to grow a crop above the ground one year and follow it with one beneath the surface.

WINTER VEGETABLES.

Summer vegetable will soon be out of season. Even the luscious watermelon or the rich muskmelon or canteloupe lose their desirable flavor when colder weather comes. The fresh tomato, however, for cooking, will be in favor as late as the frost keeps away. This is also a reminder that a few vines may be preserved until later in the season by a light covering if we should have an early and destructive frost. Very late in the season the growth and maturity of fruit is so slow as to make less of a point in favor of late grown fruit. In choice, warm, foothill locations, with sunny exposure, conditions are more favorable, especially for summer planted roots, which are more vigorous than those that have been bearing heavily for the whole season. This all reminds us that if we are to have a continuous supply of vegetables in season we must keep planting, and sowing seed. All of the commoner hardy vegetables will give a good supply for the table if sown at once in rich soil. Onions, turnips, corrots, peas, cabbage and the various salad and pot herbs for flavoring will give a good supply for the house during winter and spring and until they begin to run to seed, when the spring supply from sowing in early spring will furnish the table through all next summer. To grow the best rich soil and plenty of water are essential conditions and without them success will be only indifferent. With these factors an enjoyable meal is always at hand. In very favorable locations early potatoes may be still planted for family use, or if near a good market. A good quality of new potatoes may bring fancy prices along with green peas and other luscious vegetable for eastern tourists' use.

ONIONS GROWN UNDER MULCH.

Mulching tests for various vegetable have been made at the Nebraska experiment station, for two or three years past, and in most instances the mulch has proven beneficial enough to warrant it being practical for the busy farmer. Here are the results of the test of mulched onions last year: Twelve rows 100 feet long were planted in each of two plats side by side. These were started by sowing seed in boxes early in March and partially forced in the hot bed. They were then transplanted in the field plats in April or when the plant was four to six inches high. Two varieties were grown in each plat—Prize Taker and Red Wetherfield. Both plats were cultivated twice with wheel hoe and hand weeded once—just before the mulching, which was applied about June 10.

The work of placing the mulch (old wheat straw), on the plat just about balanced the work of cultivating and weeding the other plat for the balance of the season. Both plats are harvested in September and measures taken by weight. The heaviest yield was of mulched Prize Takers—579 bushels per acre. The per cent. of gains for the mulched plat over the cultivated plat was as follows: Prize Taker 12.4 per cent., Red Wetherfield 10.4 per cent. The onions were all of large, even size and sold on the Lincoln market at top prices—70 cents per bushel, wholesale. Last year being a wet season the gains of mulching were not as great as they would be in a dry season. Where material for mulch is easily obtained it will pay to use it in the onion bed.

GROW YOUR OWN VEGETABLES.

We have always contended that farmers in California make a serious mistake by not raising their own vegetables. Serious, not only from an economic, but from a sanitary standpoint. The number of nickles and dimes paid out annually for vegetables to "John" is surprising, or would be if any count were kept of it.

We'll wage a year's subscription that seventy-five per cent of our readers give John Chinaman every month more than enough to pay for the Cultivator a year.

And it's the meanest kind of way to spend money, too, for what you get for it isn't first-class by a long way, nor is it fresh or wholesome. Follow the Chinaman and see him wash off the bunches of lettuce or spinach in the irrigating ditch (sewer if he's near enough to a city) in order to keep the leaves in a half way fresh condition. Watch him rinse off the asparagus or salsify in the same way, and then stop and figure up if it wouldn't be nicer to say the least, to say nothing of cheaper, to raise your own "garden sass!"

Last week we drove from Whittier to La Habra and on the way noted a well kept vegetable garden that was a pleasure to look at. As we passed it we observed to our companion "That's the way to do things, and I'll warrant the house is equally up to date," and sure enough, the ranch house was in the very pink of condition; grounds neat, a well kept flower garden and nicely graveled walks. It didn't cost much—the vegetable garden paid for it all, we're sure—and it made life far more attractive to the occupants.

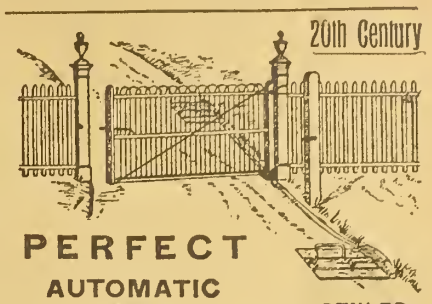
In several places we noted the same thing—a well kept vegetable garden was the adjunct to a well kept orchard and attractive home so, if Cultivator readers want to be up-to-date, raise your own vegetables.

Mother (reproachfully, to her small son)—Jamie, where have you been all afternoon?

Jamie (uneasily)—At Sunday school, mamma.

Mother—Then how is it you are wet and smell so of fish?

Jamie (in desperation)—Well, you see, I've been studying about Jonah and the whale, and—well—I guess it came off on my clothes.



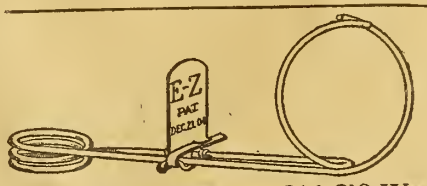
PERFECT AUTOMATIC GATE. 20 STYLES.

Money Refunded If not satisfactory or as represented. ***Works 365 days each year. NO OILING***—ten minutes each year and 10 to 20 cents expense—***no more.***

Enclose 3c stamp for 68 page catalogue.

The Lloyd Co., Inc.

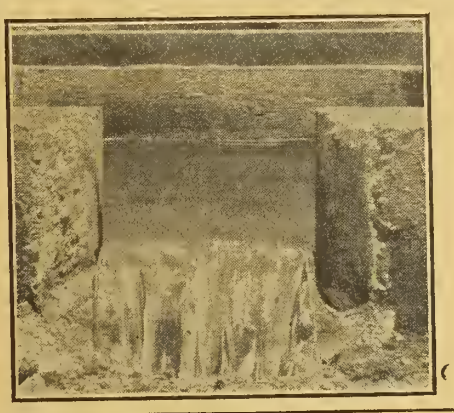
Petaluma. California



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.



Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.

We Can Save You More Money

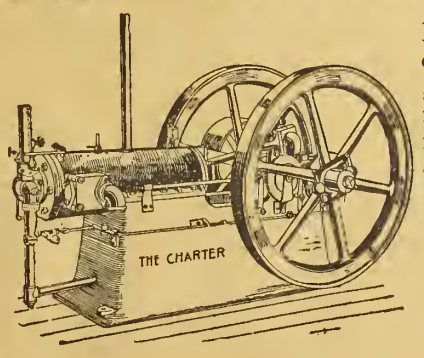
Than any one else on Wrought Iron Pipe and Casing, Boilers, Engines, Pumps, Water and Oil Well Machinery and Tools. We will fill your order from diagram and it will be right. We fit up everything in our own shop before shipping

J. L. BERRY SUPPLY CO., Los Angeles, Cal.

Office; 304-305 Douglas Building Phones: Home 2367; Sunset Red 2811

Shops and Yards: 860 North Main St. Phones; Home 1088; Sunset Main 1088

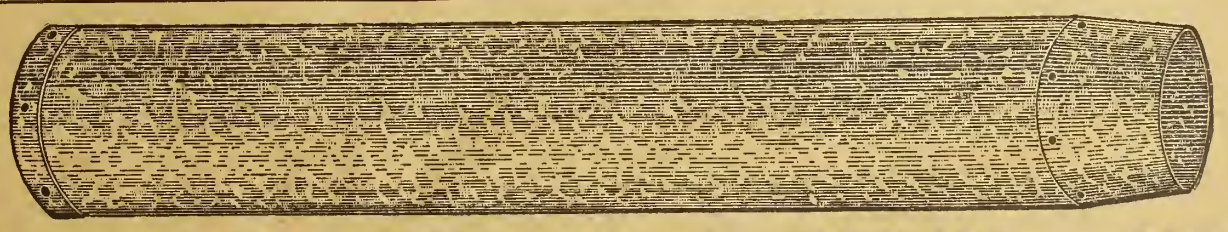
ECONOMY IN RAISING WATER



Is possible with a reliable engine. We have a good gasoline engine for little money. Competent engineers at hand to give advice on installation. Write us for information on Gas, Gasoline and Steam Plants.

Pacific Coast Mfg. Co.

126-128 So. Los Angeles St, Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** *WRITE FOR CATALOGUE*

Tallerday Manufacturing Co.

PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles

MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES

When writing advertisers mention Cultivator.

CALIFORNIA CULTIVATOR

ESTABLISHED 1885
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Oct. 13, 1905

CONTENTS. Page.

Rural Improvement 339
California Horticulturally 341
Varying Character of Bees 342
Bordeaux for Leaf Curl 343
The Gum Disease 344
A Home For Six Bits 345
October Vegetable Calendar 346
Editorial 346
Coast News Notes 347
Angora Goat Industry 348
Value of Alfalfa 349
The Future of the Dairy 350
Veterinary 350
Road Dust vs. Lime 351
Breeding Geese 352
Make the Farm Attractive 353
General Agriculture. 354
Queries and Suggestions 355
Household and Recipes 356-7
Markets 358-9

Era of Prosperity Before Us.—According to the government crop reports for September, we are to experience a wonderful yield of our two staple crops for the Pacific Northwest and the Middle West. These portend a year of great national prosperity.

According to the calculations of the statistican of the New York Produce Exchange, the corn crop will reach 2,716,918,000 bushels—the largest total in our history, being nearly 200,000,000 bushels greater than the record breaking yield of 1902. In wheat the indicated yield is 704,447,000 bushels, a gain of 99,000,000 bushels over last year. Only once in our history has this record been surpassed, the famous 1901 crop, reaching a total of 748,460,218 bushels. Taking corn and wheat together, however, we have never had a more fruitful and roseate year.

The effect of this spurt in agricultural production on the general prosperity is obvious. To begin with, the marked increase in the wheat yield will greatly swell the volume of exports. From 1901 to 1904 our wheat crop steadily diminished in quantity. The total fell from 748,000,000 bushels in 1901 to 670,000,000 in 1902, 637,000,000 in 1903 and 605,000,000 in 1904. There were many experts who declared that our wheat area had been permanently decreased, the land being exhausted or turned to other uses. Wheat exports naturally fell off, and the theory was advanced that we were beginning to consume our own wheat crop and should never regain our lost position as a wheat exporter. In the fiscal year 1904-'05 our exports of grain fell to 43,700,000 bushels, although only so recently as 1902 we were exporting 234,000,000 bushels. Fortunately gains in manufactured exports more than made up for losses in raw materials, and we closed the year with the largest total we have ever reached in exports. But the bumper wheat crop of 1905, releasing at least 100,000,000 bushels additional for export, will help materially to carry our export trade for 1905-'06 to a new high level.

The Cultivator has maintained all along that the prosperity of the country for 1906 is assured. Of course, here in California, we are somewhat governed by climatic conditions for our local prosperity, but if we may rely on the weather bureau, at Washington, we can count on as much rain the coming season as we had last year. But we shall feel the effect of the general prosperity, however, no matter if we shall go short on rain—which we probably shall not—and our own products will be sufficient to give us a most prosperous season in 1906.

This year has been a phenomenal one for citrus growers; the prices they have received have been satisfactory in the extreme, and if we shall have another year of as good results, California will receive such an impetus from its own resources and in incoming population, as shall make us one of the most prosperous States in the Union.

In confirmation of this declaration, read what the New York Tribune says in reference to the returns we have had in this country from our cereal crops:

"To domestic trade the great crops now indicated will serve as an equally potent stimulus. Prosperity for the farmer means prosperity for the transporter, the middleman and the manufacturer. The railroads will find their business enlarged, and the wealth drawn from the soil will create a new demand along all lines of industry. The recent revival in the steel and iron trade is only one of the advance signs of a new wave of national prosperity—prosperity based not on fictitious booms or frenzied speculation, but on illimitable natural resources and genuine productive energy."

So we can have no reason to feel discouraged. The outlook is auspicious, we face the coming season with highest hopes and with the best of anticipations.

* * *

Affirms The Cultivator.—When yellow fever broke out in New Orleans, this paper called the attention to the necessity of cleaning up our coast towns to avoid any possibility of Southern California receiving a visit from this dread disease. It is a well-known fact that yellow fever, as well as typhoid follows uncleanly conditions, and is also carried by mosquitoes.

The State Board of Health has come out in a bulletin confirming the position taken by the Cultivator and urging city authorities to prevent the introduction of the disease by removing the causes which lead to it. Here is what the State Board of Health says in its bulletin: "The question is often asked if there is any danger of yelow fever in California. The answer to this must be that there is danger, although it is not great. Yellow fever is spread by a certain species of mosquito, and that mosquito has never been reported in California. If not here now, it might be brought in ships or cars, and so become naturalized, when we would soon have plenty of them. The mosquito is harmless unless it has bitten a person suffering with yellow fever, so should the mosquito develop here, no bad results would follow unless a case of yellow fever should be imported and the mosquito allowed to bite the patient. Our safety consists, first, in preventing the introduction of mosquitoes and destroying all their breeding-places; second, in keeping all cases or yellow fever protected from mosquitoes. Ships and cars from infected ports are fumigated to destroy the mosquitoes, and a close watch kept for any case of the fever. However, every health officer, physician and citizen has a duty to perform.

"We know the cause and can control it by united effort, and can take a valuable lesson from the intense suffering endured and great expense entailed by New Orleans during the past summer. The city was not properly sewered or drained, and had 70,000 cisterns all above ground, many of which were open and therefore breeding-places for mosquitoes. It has been an expensive fight, but one fought on scientific grounds, and science is winning out. Had all the citizens and physicians been prompt in reporting cases and accorded the health authorities an active support, the victory would have been more complete. The hiding of cases in this epidemic, as in all epidemics of contagious diseases everywhere, has been the cause of much of the suffering. Some time people will find that health authorities are working for their good."

* * *

Commendable Work.—The Grand Jury of Los Angeles County made a report last week to the Court, in which severe criticism is indulged in, on the condition of the public highways. It would seem that the sum of $250,000 is annually raised for our roads, that is, the taxpayers place that sum in the hands of the supervisors for road purposes, but the condition of the highways remains lamentably bad It was shown in the report of the Grand Jury that one supervisor in Los Angeles County has had a large fund at his disposal for over a year, and yet has done nothing to speak of in the way of repairs. What is the supervisor in the third district doing that he doesn't get to work? Very soon the wet season will fall upon us, the roads will be well nigh impossible from chuck holes and washes, and with heavy rains to come they will have to be abandoned. There are two bridges out on Vermont Avenue leading to Hollywood which have not been repaired this entire season. Who is to blame? No one but the supervisor in charge of that district unless the bridges are within the limit of the City of Los Angeles.

It would seem as if our road tax is large enough to insure keeping the highways in order. Such neglect of the people's rights demands explanation from some quarter.

If the supervisor in question is incompetent, he ought to resign and let some one take his place who will attend to the business of the district. The idea of allowing a road fund of $20,000 to remain in the treasury for a year, when the highways are needing every dollar of it in repairs, is little short of criminal carelessness. The people in the third district of Los Angeles County should call upon their supervisor to make good or step down and out.

The question of good roads in California is one of paramount importance. It is second only to the water question. We must have first class public highways or we can not improve in the county as we should. It is the business of the supervisors to look after the public highways and to see that the taxpayers get something for their money.

We are inclined to the view that the present law governing the making of public roads in California should be amended. Some highway commission ought to have them in charge and be responsible for them. Under the present law no one seems to exercise any interest in the welfare of the highways. It is time for the people to take the matter in hand.

* * *

The Teacher in the Rural Schools.—The time has come when our board of education ought to take the question out of door improvement into consideration in hiring teachers. One may travel all over the state without seeing many examples of improved school houses en route, and it comes to one's mind that in the education of the teacher nowadays there should be included a fairly comprehensive course on nature study and outdoor improvement. The adaptability of the young to nature's influences and teachings, and their enthusiastic love of garden work has been amply proved and is well realized, but leaders and instructors are positively necessary and these should be found in the teacher. And especially so in the rural schools. In the country, up to date, the missionary efforts of the Improvement League and Ladies' Auxiliaries have scarcely been heard of, and so the apathy characterizing the country in such a movement is very much in evidence, and will only be removed to an appreciable extent by the persistent activity of the school children with the intelligent cooperation of their teachers. In the country school teacher we should be able to find in due course the making of an apostle in outdoor improvement, whose influence through the children to the parents would be far-reaching, indeed. Unfortunately, the standard of education in the average teacher of the rural school is at present far from satisfactory, the normal schools, as a rule, not embodying in their curriculum such lines of study as would establish principles of taste and culture in the aspirants for the position of school teachers, and there must be some foundation in these directions to make their activity in outdoor improvement effective either in the school or country. Energy may be well directed towards making the country school teacher in fact as well as in thory an efficient disciple of the leaders in this great movement of the twentieth century.

* * *

Reinstated.—It is announced in Washington dispatches that the Secretary of Agriculture has determined to reinstate Dr. Moore because he has been vindicated by the Department of Justice after a full examination. Dr. Moore, it will be remembered, was discharged by Secretary Wilson because of his alleged official influence used to promote the sale of nitro-culture. As soon as the charges were made against him he resigned. It now appears as if he made a mistake to retire. Any man does, when under fire, unless he is guilty. Dr. Moore seems not to have been, hence, Mr. Wilson, desiring to do him justice, and to retain a valuable assistant, has decided to reinstate him.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The vineyards of Sonoma County will yield but a little over half their usual crop.

The State Pathological Laboratory ought to be located either in, or close to, Redlands.—The Citrograph.

Grape prices around Cloverdale have advanced to $18—$20.50 per ton, a raise of $2.00 over last week's prices.

The raisin crops of Fresno Co., while short in quantity, is of unusually good quality. Wine grapes are an excellent crop.

The walnut crop around Saticoy is only about one-half the yield obtained last year, but the growers are persistent in claiming that the quality is much superior.

This year's experiments with pink beans by Tulare County farmers have demonstrated that at least $75 per acre can be cleared from the crop in ordinary years.

A melon growers association was organized at Imperial on Wednesday last and it is probable the onion growers may become members and cooperate with them.

The Pacific Coast Ginseng Company has organized at Mountain View, Santa Clara County. Ginseng and other medicinal plants will be propagated by the company .

The Pajaro valley will turn out more apples for export than last year, some authorities estimating the crop output from 2000 to 3000 cars. Already more than 1000 cars have gone out.

The grape crop in Cucamonga was badly damaged by blight this season. Hardly one-third of a crop was realized. The Italian Vineyard Co. sulphured their vines and got a good crop in consequence.

Grape picking is now under full sway. The crop is turning out better in some sections than was at first anticipated. The warm weather has been grand for the ripening and harvesting of the crop.

Highland orange growers are planting peas between the rows of trees, the vines to be plowed under later on and used for fertilizer. Necessity for this, during the past few years, has become more pronounced.

Over one-half the necessary acreage of sugar beets have been signed by the farmers around the new Tulare factory and no trouble is anticipated in getting a sufficient crop to ensure the factory's being employed at all times with a full force of hands.

E. E. Wilson of Orange received returns from New York last week on the sale of two carloads of late Valencia oranges, which beat all previous records for price. One carload sold for $2100.32 and the other for $2200.38. These figures will realize to the grower about $4 to $4.25 per box, on the trees.

The prune growers of Idaho are quite jubilant over the present condition of the market for their product and expect large profits on their crop. Just now the prices range from 75 cents to $1 a box where a short time ago 40 and 60 cents were offered. There seems to be a steady demand for all the prunes they have to sell.

Sixty carloads of Tokay grapes shipped from Sacramento and San Joaquin Counties through the California Fruit Exchange, from August 30 th to Sept. 29th, realized $96,546 in the Eastern markets. This was an average per car of 960 crates, of $1609.10. The maximum price received was $2255 for a carload, and $700 the minimum price.

The Board of Directors of the California Raisin Growers' Company has announced the following schedule of prices which it will ask for raisins this year, it was arranged on what is known as the 4 1-2 or sweatbox basis, and is as follows: Loose raisins, 4 crown, 6 1-2c per pound; 3 crown, 6c; two crown, 5 3-4c; seeded raisins, fancy, 12 oz., 6 5-8c; choice, 16 oz., 8 1-4c; fancy 12 oz., 6 5-8c; choice, 16 oz., 8c; choice, 12 oz., 63-8c.

Prof. S. M. Tracey of the United States department of agriculture and agent of the bureau of plant industry arrived in Los Angeles a few days ago. His purpose in coming to this section is to ascertain if it is possible to recommend to the citrus fruit growers some plant or grass crop that can be successfully grown between the orange and lemon trees and used as a fertilizer to take the place of the chemical fertilizers that are necessary for use each year.

AGRICULTURE.

The government now has over 700 two year old date palms growing near Mecca, in Riverside County.

Wheat in the Boise valley, Idaho, this year made an average of 35 to 55 bushels per acre, oats 40 to 104, and barley about 40.

The sugar beet crop around Compton is reported, in some instances, as running over 35 tons to the acre and as high as 22 per cent. in sugar.

The Santa Barbara bean crop is lighter than that of last year owing to the unusually rank growth of the vines. This has been caused in part by an excess of cloudy weather which has also induced mildew.

The Central California Agricultural Fair held at the fair grounds in Hanford, October 9-14 inclusive, was the fifth annual exhibit to be given at that place, and far surpassed in importance any that have preceded it.

The Chino Valley beet growers have nearly all contracted their crop for prices ranging from $3.50 to $5.70 per ton according to the per cent. of sugar shown. This is an average increase of 35 cents per ton over the prices of last year.

The State Grange of the Patrons of Husbandry decided to establish a bureau of Statistical information to collect data concerning crops and resources in various counties of the State and forward the same to subordinate granges.

Advices from Ventura state that the Lima bean crop is the largest in the history of the county. A dozen threshing outfits are in operation, endeavoring to secure the crop before the winter rains. The yield is said to be fully up to the estimate of a few week's ago and in some cases exceed it.

M. A. Carlton, one of the greatest cereal experts in the country, a member of the staff of the Agricultural Department at Washington, arrived at Berkeley a few days ago. Mr. Carlton will visit all the experiment stations where wheat is being grown and will also gain full information of all that has thus far been accomplished by the University at home.

RED BLUFF, Oct. 8—It is reported here that James Rennie, manager and superintendent of the Stanford ranch at Vina, has tendered his resignation to Charles G. Lathrop and will sever his connection with the vast estate of 60,000 acres in this country and 40,000 acres in the Gridley ranch in Butte County. Rennie's resignation gives rise to persistent rumor that this immense tract which is part of the Stanford University endowment, is soon to be divided into small tracts of from ten acres up and sold to eastern agriculturists. This property in this country is assessed at almost $1,000,000.

LIVE STOCK.

Last week 20,000 rainbow trout were placed in Strawberry Creek in the San Joaquin Mountains.

The J. E. Smith Livestock Company of Pendleton, Ore., has shipped two train loads of lambs from Meacham to Minnesota. The sheep were purchased and sent to Minnesota feeding districts.

The Ames & Garsey sheep ranch in Mendocino County, consisting of 4200 acres has been sold for about $6 per acre. The new owner, W. C. Henshaw, now has about 24000 acres of good sheep and cattle range.

Entries for the races at Tulare, beginning on the 16th, have been coming in rapidly of late, and they are assured a greater number of horses at the track during the race meet than has ever been brought together in the valley.

Livestock at the Spokane Interstate fair, October 9 to 15, will be the finest ever seen in that part of the country. The best which was shown at the Lewis and Clark show at Portland will be there besides others from the Pacific northwest.

Tulare County expects to have an unusually large exhibit of live stock at the fair, October 16-21. Failure by the Board of Supervisors to make an appropriation for a stock exhibit fund has resulted in the citizens taking the matter in their own hands and the live stock exhibit is expected to be the chief feature of the fair.

W. M. Weaver and V. P. Edie have gone to Albuquerque, New Mexico, to bring in 6,000 sheep to Imperial valley. It is their intention to ship them over the Santa Fe railroad to Temecula in Riverside County and drive them from there over the mountains by way of Warner's ranch, San Felipe and Carrizo Creek thence across the desert to this Valley.

The Corning wool sellers have disposed of all the wool stored in Kaufman Bros. big warehouse at prices ranging from 14 1-2 to 16 1-2 cents. This is lower than the growers earlier in the season expected to realize some of them hoping to get 20 cents for their clip, but the prices ruling this week were about the average and were the prices at which Red Bluff wool sold.

MISCELLANEOUS.

Holtville, on the desert, has organized a chamber of commerce.

Two inches of snow fell in the mountains of the Santa Barbara Forest Reserve on last Thursday.

A produce company with $20,000 capital has been organized at Indio, whose object is to market fruit, vegetables and other farm products.

The Home Telephone Co. has secured entrance to Oakland, which means cheap and efficient telephone service for that district.

Escondido is to have a regular "clean up" day on which all good citizens will be expected to see that their premises are above reproach.

Marysville has a large and very much alive Woman's Civic Improvement Club which is doing a world of good in making the town more tidy.

The City Trustees of Anaheim have fixed Nov. 11 as the time for holding an election to decide upon the issuance of $69,000 bonds for city improvements.

Last week's rain in the central counties seems to have caused no damage, though at some points, Visalia for instance, over a tenth of an inch fell on Thursday.

Hon. T. P. Lukens of Pasadena, long a much appreciated employee of the U. S. Forest Service, has been appointed by Gov. Pardee Assistant State Forester.

The express shipments at Escondido for the last week were 1590 dozen eggs, 1700 pounds chickens, 300 pounds butter, 570 pounds of cream, and 16,170 pounds of grapes.

A big flow of natural gas was struck last week, near Angiola in Kings County. It is only 15 miles from the new town of Corcoran and in the midst of a rapidly developing section.

Chino is on the eve of incorporation as a city of the sixth class; a petition circulated for that purpose seems to have the requisite number of signers to get the supervisors to call an election for the purpose.

The supervisors of Solano County are taking steps to call a special election to vote bonds in the sum of $300,000 for the purpose of building a new Court House at Fairfield and a branch county hospital at Vallejo.

The Woman's Civic Improvement Club has decided to plant more palm trees in the square, and the trees now adorning the Methodist Church grounds will be used for the purpose, as the Aid Society of the church is about to make some improvements that will necessitate the removal of the palms and they will be donated to the Improvement Club. (Marysville.)

The President has established a new forest reserve in Arizona, which is to be called the Tonto Reserve, and is intended to protect the watershed of Tonto Creek, an important feeder of the great irrigation reservoir to be created near Phoenix. The reserve will contain 1,120,000 acres and will extend north and south from the Magellan Plateau to Salt River and east and west from the Verde Valley to the White Mountain Indian Reservation.

C. H. SESSIONS, ASSOCIATE EDITOR

ANGORA GOAT INDUSTRY.

Writing from the standpoint of an experienced goat raiser, H. M. Williamson of Oregon gives his views on the value of the Oregon goat in a country where brush exists and the land needs cleaning of weeds. His idea is that the time is not far distant when the Angora goat industry will be larger than the sheep interest of today.

Angora goats first found favor in Oregon among the farmers of the Willamette valley, because they proved so useful as brush destroyers. In the days when the Indians controlled the country, annual fires kept the Willamette valley country free from brush, but when the fires were stopped the brush sprang up and "took the country," or so much of it as was not under the plow. Pastures became young forests and slashings and burnings were followed by a fresh growth of brush. It was found that the cheapest method of getting rid of the brush was to pasture goats on it. The Angora goat paid for his keeping by his work as a brush destroyer and his fleece and increase were profit. On many of the valley farms the period of usefulness of the Angora goat was temporary, but in the settlements among the foothills the industry took on a permanent form. Where there is rough, hilly land the humid climate west of the Cascade mountains foreordains a perpetual field of usefulness and profit for the Angoria goat. After the more level lands have been brought under cultivation the rough hills remain and tend under our lavish rainfall, to rapidly cover themselves with brush, even after they have been cleared. Permanent grass pastures for other stock are not a success on such lands without the aid of goats. In many places the tendency of brush to grow is so strong that goats will always, of necessity, be the leading domestic animal.

The logging off of timber lands by lumbermen also opens a large field of usefulness for the Angora goat, a great share of the logged-off lands west of the cascade mountains are destined to become in time farm lands. Some errors have been made, however, in placing goats upon logged-off lands too soon after the lumber has been removed. The brush which grows in the dense shade of a forest is unsuited for goat food. Two or three years should elapse after the trees have been cut in order to permit the soil to dry out, and become sweet, and for a growth of brush to develop in sunlight.

While the Angora goat is naturally most healthy in a dry climate it shows great adaptability if given proper care and attention. In no section of the United States are there fewer losses of goats reported than in Western Oregon. The conditions in Western Oregon and Western Washington are so similar that it may well be expected that goats will do as well in the one State as in the other, and in fact the few flocks in Western Washington which date back for a number of years are as healthy and prolific as could be desired. It almost invariably happens in Oregon, Washington and elsewhere, that beginners in the Angora industry in a district in which goats have not previously been kept, lose heavily the first year or two. This is partly due to the introduction of goats to new surroundings, but mainly to wrong beliefs about a goat's ability to live without any food or care to speak of. While the Angora goat probably requires less artificial feeding and less care than any other domestic animal it does need care and at times the aid of man in securing its food and no other domestic animal pays better for its food and care.

From the foundation of about 2,000 goats thirty years ago, the number in the Pacific Northwest has grown to nearly 200,000. Angora goats in Oregon, Washington and Idaho are most in demand where they have been kept longest. Nearly ten thousand farmers in the Northwest own Angoras at the present time and the number of owners increases rapidly from year to year. While the industry is most extensively developed west of the Cascade mountains there are a great number of ideal locations for Angoras in Eastern Oregon, Eastern Washington and British Columbia. There is a great future for the Angora industry in the Northwest. There are millions of acres in this vast section which can be more profitably used for goat pasture than for anything else; there are other millions of acres upon which Angoras will do useful work in destroying or keeping down brush. By the aid of the Angora many thousands of families will be able to make a comfortable home in hilly and mountainous sections where without the aid of the goat the task would be hopeless. Within a human generation it is probable that the Angora goat industry will be a greater one than the sheep industry is today in the States of Oregon and Washington, and the development of the Angora industry will promote, rather than retard the other branches of animal husbandry.

TUBERCULOSIS IN DAIRY HERDS.

The veterinary department of the Missouri State Board of Agriculture has recently published a bulletin announcing the intention to take up the work of testing breeding and dairy cattle in the State with the object in view of stamping out tuberculosis, this being done without any expense to dairymen or stockmen. Attention is called to the fact that owing to the funds being limited it might not be possible to test all herds whose owners make application, but the applications will be filed and taken up in the order in which they are received.

First, the tests will be limited to registered beef cattle and dairy herds, the idea in this being to prevent the spread of this insiduous disease wherever it is found. Pure-bred animals

Put *Facts* and *Common Sense* to work on a Tubular Cream Separator and **you know it must be easy to operate.** Put *Facts* and *Common Sense* up against a back breaking, hard to wash, high can "bucket bowl" machine and **you can't make yourself believe** it is easy to operate. In the light of truth, the out-of-date, "bucket bowl" separators go to smash. Which kind for you, the

Tubular	*or*	**"Bucket Bowl"**
Low Can	*or*	*High Can*
Simple Bowl	*or*	*Bowl Full of Parts*
Enclosed Gears	*or*	*Exposed Gears*
Self Oiling	*or*	*Oil Yourself*

Catalog O-260 tells all about Tubulars. Write for it.

The Sharples Separator Co.

Toronto, Can. WEST CHESTER, PA. Chicago.

CLIFFORD'S ANTI LUMP JAW

Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing **"Clifford's Anti Lump Jaw"**—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.

Our **Hog Cholera Remedy is guaranteed to cure.** Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.

Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our **Chicken Cholera and Roup Remedy** will cure all diseases that the feathered fowl is heir to.

CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

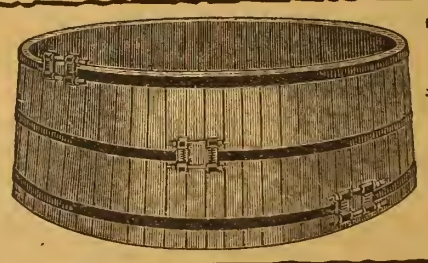
STERLING MILK COMPANY

INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS

Farms in Los Angeles and Riverside Counties Young stock for sale at all times.

PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.



TANKS

Wine Tanks, Oil Tanks, Water Tanks. You can save money by getting my prices. My improved tank is easy to erect. A hammer and wrench are all the tools you need.

R. F. WILSON MANUFACTURING WORKS

STOCKTON, CAL

DE LAVAL SEPARATORS

AND OUR LINE OF **DAIRY AND CREAMERY MACHINERY**

are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.

DE LAVAL DAIRY SUPPLY CO.

9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

When writing advertisers mention Cultivator.

Riverside Herd of Holsteins

CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON

884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***if not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

JERSEYS

PEDRO'S PRINCE PRIMROSE and **LOWLAND LAD,** with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

When writing advertisers mention Cultivator.

La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want.

J. A. CAMPBELL, Buena Park, Cal.

When writing advertisers mention Cultivator.

FOR SALE—

Marigold's Southern Princess,

No. 181426

Freshened with First Calf, Aug., 1905

SIRE—Marigold Holyoke, 49594. Sire of many excellent dairy cows; son of the great Stoke Pogis of Prospect.

DAM—Vela Hastings, 119615, whose year's authenticated record of 450 lbs. butterfat, from 7486 lbs. milk, has put her in Class A, Register of Merit, A. J. C. C.

Price, $75.00

Address

C. W. Leffingwell, Jr.

WHITTIER, CAL.

When writing advertisers mention Cultivator.

are being sold and scattered continually, hence the great importance of having this class of animals healthy.

The prevalence of tuberculosis in hogs during recent years is partially responsible for the interest now being shown in cattle tuberculosis, because it has been demonstrated conclusively that hogs fed on by-products of the dairy are much more diseased than those that are not. It is, therefore, not because tuberculosis seems to be present in Missouri to an alarming extent that the department of commerce is taking up the matter, but rather to keep this disease in check while herds are comparatively free from disease. As this work, when once taken up, will likely continue until the disease no longer exists in the State, it might be of interest to our readers to give briefly the nature of the tuberculin test.

The bulletin in question says that tuberculin is a culture liquid into which the germs of tuberculosis have been introduced and allowed to vegetate. The germs of the human tuberculous patient are inoculated into the culture and allowed to multiply until the culture is thoroughly saturated with their toxic products. The culture is then heated sufficiently to kill all germs and then passed through a porcelain filter to remove them. The filtered liquid, called tuberculin, is put up in sealed bottles and does not contain a dead or living germ of any contagious disease.

Two cubic centimeters (thirty drops) of tuberculin for every thousand pounds of body weight is injected under the skin with an ordinary hypodermic syringe. Before making the injection the syringe and all needles should be thoroughly disinfected by boiling or otherwise. The syringe needle should be dipped into an antiseptic solution between injections, and the hands of the operatior and the syringe should be kept as clean as possible during the time the injections are being made.

The injection of tuberculin into a healthy animal produces absolutely no effect. In an animal affected with tuberculosis it causes a marked rise in the temperature between the ninth and sixteenth hour after the injection. The amount of rise in the temperature which follows the injection of tuberculin into a tuberculous animal depends largely upon the extent of disease in such animal. In the early stages the rise is very marked, sometimes amounting to from four to six degrees; that is, the temperature after injection will be from four to six degrees higher than it was before the injection. The further advanced the disease the less will be the reaction of the tuberculin until in an animal that is very badly diseased only a very slight reaction can be expected. It is difficult to lay down a definite rule as to just how much of a reaction should be considered sufficient to condemn an animal. In the animal least diseased there is a reaction of from four to six degrees; in the one where the disease is advanced, there is a very slight rise in the temperature. Where there are no clinical evidences of disease, a reaction of at least three degrees should be required before the animal is condemned and marked "diseased." If in a healthy looking animal there is a reaction of from two to three degrees, the animal ought to be marked "suspicious" and re-tested at a later date. If the animal shows evidences of the disease, it should be marked "diseased" although it gives but slight reaction, especially when strong reactions are had in other animals in the herd.

No one claims that the tuberculin test is an infallible diagnostic agent. No work of the human hands is infallible. It must be admitted, however, that it is the most accurate and only means we have of gaining a correct idea of the prevalence of tuberculosis in living cattle. In the use of the tuberculin test in the State of Pennsylvania, for a period of seven years, six mistakes were made in 4500 cattle condemned. The chances are that in careful hands there will be at most not more than one mistake per hundred head of cattle condemned. The per cent at most is so small as to be hardly worthy of consideration.

A VALUABLE HEIFER FROM TESTED DAM.

C. W. Leffingwell of Whittier writes us as follows:

Gentlemen: We are offering this week a daughter of Vela Hastings at a price which is very low. This heifer will probably develop into as good a cow as her dam, but to do so she must prove herself very persistent, which takes time. We are compelled to sell something to reduce the number of our herd and as our older cows are all well along on yearly tests we are compelled to let some of our heifers go. As this one has no record back of her to absolutely prove what she will do for the entire year, we are compelled to put a price on her which may prove way below her actual value. Buyers will find that our ideas are high as to the value of our proven performers, but when a man buys a heifer which has not yet had time to prove her persistency he is always taking some chances and should get some concession in price on this account.

Very truly yours, C. W. Leffingwell, Jr.

VALUE OF ALFALFA FEED.

Mr. Cotton is a well known lawyer at Portland and owner of a large dairy and in speaking of the value of alfalfa as a milk producer says: "There is no better food for cattle, and for cows in particular, than alfalfa. Ten pounds of alfalfa hay is equal to eight pounds of bran, and bran selling at $20 a ton, alfalfa at $16 a ton, it will readily be seen that alfalfa is cheaper than other feed for cows. And not only cheaper, but it is by far the best milk producer. Alfalfa is the only forage obtainable in mid-summer and the farmers of the Willamette valley (Oregon) in particular, should be educated in this one fact, as green forage at that time of year is very hard to procure in this part of the State."

FOR SALE AT

Minnewawa Stock Farm

One pair dapple gray full blood registered Percheron fillies, 2 years old last spring.

One pair well matched gray geldings, 4 years old, 7/8 Percherons, weighing 3000 pounds; well broken to single and double harness.

M. E. & W. N. Sherman, Fresno, California

Gold Medal Herd

JERSEY CATTLE
SOUTHDOWN SHEEP
BERKSHIRE HOGS

Thos. Waite - Perkins, Cal.

DR. PAXTON'S REMEDIES

for Distemper, Epizootic. Russian Influenza. Cough and Throat Remedies

Paxton Veterinary Medicine Co. Lock Box 95, Sta. C, Los Angeles

GEO. C. ROEDING, BREEDER OF HIGH-GRADE

Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

FRESNO, CALIFORNIA

Registered Shorthorns

—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch

Box 321, Petaluma, Cal

Vaccinate Now

AGAINST

ANTHRAX

AND

BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory

322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

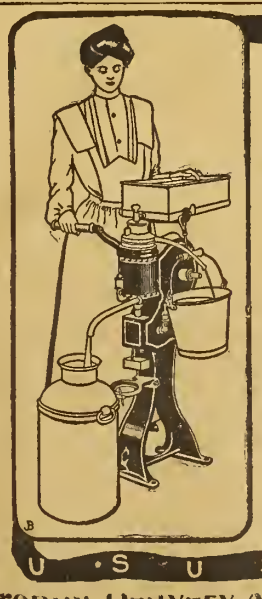
U. S. SEPARATORS SOLD BY K. B. NORSWING

MAIN ST. AND SLAUSON AVE., LOS ANGELES

Separators can be seen at store, near end of Maple avenue car line.

If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.

Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.



READ THIS AFFIDAVIT

DUNDEE, OREGON

"This U. S. Separator has been in use for the past nine years, and in that length of time the entire cost of extras, which consisted of three rubber rings, amounted to 45c.

"I separated with this machine today (June 10) and it did **first class work.** (Signed), W. H. TAYLOR."

Subscribed and sworn to before J. C. Colcord, Notary Public for Oregon, June 24, 1905.

U. S. Cream Separators

Hold World's Record for Close Skimming,

and are the most durable separators made. **Actual work** for many years in **every-day** service gives an "endurance test" that really **proves** something. The U. S. will make the most money for you with least trouble and expense. Investigation costs **you** nothing. Send for free catalogue, No. 550-D, showing you plainly by illustration and complete description why U. S. Separators not only skim closest but also

WEAR THE LONGEST

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

18 Distributing Warehouses throughout the United States and Canada.

419

Prompt Delivery Assured California customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

THE FUTURE OF THE DAIRY.

At the dairy meeting held in Portland on the 27th of September, Dr. Jas. Whitcomb, director of the Oregon Agricultural College, delivered an address on the "Future of the Dairy" which applies quite as forcefully to California as to Oregon. Among other things he said:

"Dairying is destined to become the most important branch of agriculture in this State. This branch of husbandry is rapidly forging to the front and the products of the dairy will soon outstrip in value the wheat product of the State. Every condition conducive to successful dairying can be found here. The wide range of forage production and the equable climate combine to make conditions ideal for dairy husbandry. There are millions of acres of land in this State which intelligently managed, can be made to support a cow to the acre. A good cow given good dairy care should produce a net annual return of fifty dollars. Thus it is apparent that dairying can be made to yield fabulous wealth to the people of this State. Dairying is the ideal industry for the small farmer. It gives him constant and remunerative employment. A good cow properly fed and handled will never fail to yield a handsome profit. Another important feature of dairying is that the cow does not rob the land. Soil robbing is the bane of agriculture. The cow fattens the soil rather than impoverishes it. Plant food is the farmer's capital, hence any system of agriculture which unnecessarily exhausts this is wrong in principle.

"Large crop production is characteristic of all successful dairying districts. Thus the indirect profits of dairying are oftentimes considerable. There are systems of farming which are immediately profitable, but in the end are disastrous to successful husbandry. There are systems which enrich the father but impoverish the son by reason of a worn out soil as a heritage. Dairying does not do this, but rather leaves the soil richer for the benefit of future generations.

"Dairying quickly makes any community financially strong and insures the perpetuity of successful agriculture. The cow is the cornerstone of agricultural prosperity. If she is wisely selected and given proper care she will pay off more mortgages and build more and better homes than any other farm animal.

"The magnificent display of dairy cattle at this exposition gives to the dairyman a rare opportunity to become familiar with the highest types of dairy animals. It should be kept in mind that it does not cost any more to maintain a first-class cow than it does to keep an inferior one. The average yield of butter per cow is about 150 pounds per year, while herds of first-class cows will yield an average of three to four hundred pounds per year. Thus intelligent selection and breeding of dairy stock pay a big premium. Modern dairymen know just what each individual cow is producing from week to week or month to month and if after a fair trial a cow does not come up to a good standard of production she is sold to the butcher, or to some less intelligent dairyman. The modern dairyman is not only familiar with breed characteristics, but he also understands how to combine rations properly and economically. He also understands the value of kind treatment and the comfortable stabling of his animals. Dairying properly pursued will never fail to yield profitable returns for capital and energy expended."

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

CHOREA IN DOG.

I have a pup that was poisoned and has a peculiar jerking motion like St. Vitus dance Is there any remedy for same?—M. S., Cambell, Cal.

This pup had distemper and now has chorea, which often follows distemper in young dogs. Give from 2 to 4 drops tinc. nux vomica twice a day after meals, according to age and size of animal. You may increase the dose to twice the amount after a few days.

A hot bath and dried and well rubbed with alcohol is beneficial.

GARGET.

Editor Cultivator:—Will you please tell me through your valuable paper how to cure a cow of garget? She is nearly dry, but I milk her once a day. She will be fresh about the 26th of October. Pus comes from one of her teats. When she was fresh last November her udder was terribly swollen and I bathed it with olive oil and camphor. I then bathed with turpentine, but the milk was not fit to use. This will be her fourth or fifth calf. Yours, —A. N. B., Gardena.

Your cow is too near fresh to recommend any treatment until after she has calved. Then let the calf nurse for a few days. Milk all out the calf leaves, give her a tablespoonful of saltpeter once a day in mash. If there is any garget use olive oil 8 oz., eucalyptus oil 2 oz., gum camphor ½ oz. Rub in twice a day after bathing.

FOR RELAXED TONGUE.

Editor Cultivator:—I have a horse that has lately gotten into the habit of letting her tongue hang out of her mouth when at work or on the road, which is very unsightly and disagreeable to see. Can you tell me the cause and remedy? The animal is 18 years old and has been an all purpose horse, used to cultivate the orchard and to drive in the family surrey. I am feeding her on new baled barley hay. She seems to be in fairly good health. An answer in the columns of the Cultivator will oblige.—J. D. P.

Have your mare's teeth examined. Very often sharp projections on teeth will cause a horse to loll the tongue. If this does not stop her, get a lolling bit. This has a flat piece of iron on, which prevents getting the tongue over the bit, which they usually do in such cases.

WORMS.

Editor Cultivator: I have a good horse that is troubled with worms, what shall I do for him?

Remedy: give one teaspoonful of the sulphate of iron in feed for six mornings.

On the seventh morning give one half pint of linseed oil with half an ounce of turpentine. Repeat in two weeks if the horse does not improve.

CLIMATE AND CROP REPORT

WEATHER AND CROP BULLETIN.

U. S. Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, Oct. 9th.

General Summary.—Clear and warm weather prevailed most of the week in all parts of the State, with dry northerly winds a part of the time. Light rain fell in the central and northern sections, but caused no material damage to crops. Fires in the foothills east of Santa Barbara caused great damage to harvested crops and seriously injured orchards.

Raisin making is still in progress, though a large portion of the crop has been taken to packing houses. The weather was very favorable for curing the raisins and for completing the drying of late deciduous fruits. Southern California walnuts are somewhat injured by heat; the crop is reported lighter than last season's and the nuts of excellent quality. Oranges continue in first-class condition in all sections, and the outlook is good for a heavy crop. An unusually large crop of apples is being gathered. The wineries are still in full operation. Almond harvest is completed in some sections and progressing in others; the crop is reported good. Olives are in excellent condition.

In San Luis Obispo and Ventura counties the bean crop is reported the best in many years, and there is a good yield in other sections. The crop is nearly all harvested and thrashing is progressing rapidly. Hop baling and shipping continue. Sugar beet harvest is progressing. Fall plowing and dry seeding are in progress in some sections.

Eureka Summary.—Cool, with light frost at close of week. Recent rains greatly benefited feed on high ranges. Large shipments of apples continue.

Los Angeles Summary.—Conditions favorable for citrus fruits and the crop is looking well. Walnut picking begun on fair to good crop. Bean threshing progressing; crop in some localities exceeds expectations. Irrigating water is plentiful.

BUSINESS NOTES

ECONOMY IN RAISING WATER.

It is reassuring to know that underneath one's land lies a vein of water bearing gravel from which water may be brought to the surface to assure regular crops. It is, however, discouraging to find the cost of lifting the water almost prohibitive. Sometimes this is the case from conditions which may not be overcome. More often it is from ignorance of the principles which govern water lifting. Many cases are known when a farmer has "guessed" his well contained a certain supply; "guessed" a certain style of pumps and a certain power would answer, and, finally has to "guess I'll have to pull out the old and put in a new and better adapted plant."

A lot of exasperating expense and loss of time would have been saved had competent people been consulted at first. The plan of the Pacific Coast Manufacturing Co. is to supply just such information to their purchasers. They will install a plant to supply a city or one for a small garden.

A STAND-BY.

Up at Pomona recently we asked a satisfied fruit grower who was watching his irrigation while the pumping plant was running itself, that engine he used and he answered "why, the Fairbanks & Morse, of course. It's my stand-by." He added further that it is easy to start, easy to run and most economical for the power it develops.

Pretty nearly every thing in the machinery line can be had from this firm. Write Fairbanks, Morse & Co., Los Angeles, for catalogue or prices on everything in the line of machinery. Prices always the lowest for the best goods, but nothing in inferior lines sold at any price. Mention this paper when you call or write.

Waite, Bailie & Lynch, with offices and warerooms at 934-45 N. Main St., will engage in general repair work and handle gasoline and steam engines, boilers, pumps, etc. Mr. Jos. W. Lynch, who for seven years past was manager of the local house of Baker & Hamilton, has purchased an interest in the new firm and will have the business management.

The Pioneer Roll Paper Co. are now located in their handsome new quarters at 219 and 221 South Los Angeles St., where they will be pleased to meet their old and new friends.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

WELL DRILLING MACHINERY
Portable and drill any depth by steam or horse power. 420 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.
Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES

Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

WIRE FENCE
CLOTH GOODS NETTING WORK BARB WIRE
HOG COW HORSE SHEEP
WEST COAST WIRE & IRON WORKS 19 FREMONT ST. SAN FRANCISCO

Stump and Tree Pullers
Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1½ minutes. 1 to 5 acres at a setting. Different sizes to suit all kinds of clearings. For illustrated catalog address

Powerful, Handy, Low Priced.
Milne Mfg. Co. 977 Ninth St., Monmouth, Ill.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

ROAD DUST VERSUS LIME.

My description of "little mother" in last week's Cultivator was every word true, but I forgot to tell how interesting it was to see the little birds open wide their mouths when they heard her chirrup, or if they were sleeping a gentle touch on the end of the bill would have the same effect, and then the angleworm, or fat maggot, or hard-boiled egg and mashed potatoes or bread crumbs, whatever food "little mother" had decided contained the proper nourishment for each particular bird, was gently dropped into the gaping mouth every two or three hours. It was a most interesting and amusing operation to a stranger, but "little mother" was so in earnest, so faithful, loved the wee birdies so, that she saw nothing funny or amusing in the feeding of her pets. Nor did she then know and understand that she was laying the foundations of an expert in poultry and bird raising, for an expert is only a person with experience, and she was gaining practical experience which she never forgot.

It is the little things in the poultry raising which lead to good results, and I think this is the reason women usually succeed in the business where men fail.

In my last I told you I would give some of my reasons for not advising a free use of slacked lime. Old and successful poultry breeders avoid it for one thing because it will bleach out or fade the legs of the fowls, drying out the natural grease in the shanks or making the skins or scales dry and brittle. A bird with legs in that condition would be severely cut at a poultry show. Another bad effect is that, if plentifully used each time a fowl jumps down from the perch a cloud of lime dust will be raised, which is very detrimental to the lungs and a third reason is that the fowls are very apt to pick it up and eat it and this is most injurious to the organs of digestion.

A friend of mine said, "I think I will get some lime for my fowls." "Don't do it," said I, "your fowls need grit, not lime. "But it would be good for the soil," she replied. "No, your soil needs sand, but not lime." Not long after she wrote me she had bought a barrel of lime, she knew it was too much, but thought it would be a good thing to have. The following week came an agonizing letter, the fowls were eating the lime and were sick, one of the best was dead, she had held a post-mortem and found a small lump of the lime, which had eaten a hole in the gizzard and the poor bird died in agony. What should she do? "Give the others milk to drink and get rid of the lime!" She cleaned up the lime and sold the remainder, got in sand and gave them grit and had no further trouble.

A veteran poultry man said to me, "I never use lime." He sold some beautiful thoroughbred black Minorcas to a man some years ago. In about three weeks the man met him and told him he thought they were all sick, they had stopped laying and he was very much dissatisfied and wanted him to come over and see how bad they looked. He went to see them, found the pullets with sickly looking combs, tail feathers muffled out, no longer bright and glossy as they were. He looked in the henery, it was clean enough, the floor and perches covered with lime. "Why, man, they will all die if you keep them in there!" The air was full of lime and he told me the lungs must have been full. He had heard that such treatment would kill gape-worms and he felt sure his Black Minorcas would also be killed by it. Lime is excellent in its place, for white-washing henneries and barns, not for a dust bath for hens, nor for scattering on the floor of their roosting places. Road dust costs less and is greatly superior to lime or any other dust for henneries, it kills lice, absorbs and retains the ammonia and makes excellent fertilizer from the hen droppings.

It is the little things in the poultry business that tell, now if my friend had not given her fowls lime she would not have lost several, and had others so sick that they could not lay. Her losses were the cost of the lime, the value of the hens which died, and loss of eggs, probably several dozen.

As for the owner of the Black Minorcas, I do not know if he lost any, but he had his hens sick for several weeks and this prevented their laying, so he lost several dozen eggs, and had sick fowls, and when once a fowl has been sick enough to stop laying for several weeks her constitution has been seriously injured. Hens are machines and the machinery must be kept in good running order and full of energy if we want good results. Novices will recommend lime, but old breeders who have had twenty or thirty years experience, real experience not hypothetical, will say don't risk lime—use road dust.

All that cleaning up and fixing about the poultry house will be useless if you don't try to get rid of the lice and mites and leg scales on the chickens. Grease each one under the wing with keresene and lard, soak the legs in crude petroleum or a thinner mixture of kerosene and lard. The little insects that cause scabby legs must be driven out from under the leg scales.

There is mighty little money in fowls that are always kept hungry, but there is also a difference between well fed and over fed hens.

Fumigation should be part of the fall housecleaning. Sulphur in bulk is cheaper than the candles and equally effective.

Suppose the hens would all strike for a year, wouldn't many a farmer wonder where his groceries were coming from?

Fall is the best time for farmers to buy males for next season. The breeders are glad to unload their surplus cockerels that may be somewhat "off color" or may be slightly defective in other fancy points at a very moderate price if they do so early in the season.

Look out in good season for the breeding ram this fall; be sure that he possesses individual merit so that he will improve your flock.

If we were buying a cow we would ask first how much milk she gave, second what kind of milk and third if she were an easy milker. After satisfied on these points we might possibly ask what breed she belonged to.

Three Dozen White Plymouth Rock Hens
FOR SALE
At $1.00 each. Standard fowls and now laying.
J. H. CLARK
R. D. No. 1 Anaheim. Cal.

LEE'S EGG MAKER
25 lb. Pail, $2.00 WILL 2½ lb. Package, 25c
MAKE EGGS
Henry Albers Co., 315 So. Main St., Los Angeles, Cal.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.
And Now Comes New Reward for Merit:
Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."
WRITE FOR CATALOGUE 47—A BEAUTY
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

Armour's Improved Beef Scraps
Armour's Improved Beef Scraps contain no bone, hair, wool or tankage and are a rich brown color
Henry Albers LOS 315 South Main St. ANGELES

TO BREED GEESE.

For breeding purposes never use a gander related to the females. The geese improve up to 10, or even 15, years, but ganders get cross after their fourth year, and a new male bird may be desirable. The gander holds his head higher, has a heavier neck, but a less coarse voice than geese. New breeders do better if bought some time before needed. Till wanted they will not do as well. A gander naturally prefers a single mate, but can be coaxed to take two, or even three. Do not attempt more.

Old geese do well in all kinds of weather with nothing more than a shed for shelter. They will share the cattle shed, but are less apt to be stepped on and injured in one of their own, where they will often do their sitting, too. Early laying is not desirable, since the goslings do not thrive well unless they have an abundance of grass. Indeed, a goose is as much of a grazing animal as a cow, but the latter never likes to eat from the same field with geese.

Breeding geese should have considerable exercise, and be kept moderately thin in flesh. They cover their eggs with hay or straw, so there is a chance for egg hunting. If hatched under common hens the biddy mothers step on some at first, till used to such strange children. As soon as each gosling thus hatches it had better be put in a basket by the stove till strong, and all are out.

For the first three days water, grass, and a little bread and milk, not sloppy, are all they should try. Later scalded cracked corn is added. Keep their mother confined to a limited space the first few days, then gradually enlarge the run.

Goslings can not stand dew nor swimming till they get a full coat of feathers. They are also liable to be overcome by heat, and should always have some shade where they can retreat from the sun's rays.

Some pick geese two or three times after spring laying. In July or August is the natural time when feathers come out easily, without blood or matter in the quill. In winter feed a little oats, corn, plenty of water, grit, oyster shell, clover hay, and cornstalks cured green Leaves of the latter may be prepared in the fodder cutter and cooked, then thickened by meal. Ganders have sharp eyes and ears, and give a noisy, effective alarm at the sight of hawks or dogs.

TURKEY FARMERS' SECRETS.

An exchange says:

A farmer pointed to a small mill wherein a petroleum engine chug-chugged vigorously:

"In that mill," he said, "the feed for my 2000 turkeys is ground. The whole secret of successful turkey raising lies in abundant feeding. It keeps six men busy to feed my birds.

"They are fed five times a day, and each turkey gets as much as he can hold. Carrots boiled in lard and crushed barley and milk are very good fatteners, and the birds stuff themselves with them. Then, the last thing before going to roost, they eat all the oatmeal porridge and buttermilk they can find room for.

"Cocks cost more than hens on the market, because they are harder to raise. If they get together, they fight to kill one another, and they eat, furthermore, five times as much as hens.

"A cock, three hours before killing, is made to swallow a half-pint of vinegar. This vinegar makes his flesh fine and tender; without it, he would be coarse and tough.

"A turkey farm like mine pays easily from $1500 to $2500 a year."

The farmer'swife knows that there is money in poultry under adverse circumstanmes, but she needs the co-operation of her husband to make a success of it. There as so many things connected with the poultry business which a woman without help, cannot very well do.

Cramp and rheumatism are quite prevalent among ducks and are induced by housing them in damp quarters. Duck pens where the birds sleep at night should be fixed, if possible, where all water will drain away from them in wet weather. A duck takes to water, but let the ducks decide when to take to it.

Ducks are dandies to raise for home use or for market. While they are chicken cholera proof, roup proof, gape proof and hawk proof, they will die of their favorite diseases, spinal meningitis and paralysis.

The best time to buy breeding stock is in the fall.

The ventilation for the poultry house should come from the front or below.

The health of the chick depends very largely upon good digestion.

It is best to feed young poultry by themselves and not with older ones.

Burn up the old nest material, clean up and disinfect the poultry houses.

Feed poultry sweet skim milk occasionally during the summer months.

Feed squabs in troughs and never throw grain on the floor of the loft or fly.

The weeping of an heir is laughter under a mask.

Dry bran is a good feed for chickens the year around.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

A BARGAIN—Owing to changes in my business I am disposing of all my Thoroughbred Homer Pigeons. Parent stock, $2.00 a pair (from the East) goes with the young at 75c per pair in lots of 10 pairs or more. Address
M. A. W. Rodger, 144 Elliott St., Long Beach, Cal.

SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

THE JUBILEE POULTRY JOURNAL

A "Worth-while" Journal devoted to the Poultry Industry of the Pacific Coast. A Journal radically different, up-to-date and aggressive, advocating the cause of Better Poultry and More Profit.

Unusual contributions of great value, unusual competitions designed to stimulate, cultivate and educate the poultrymen to reach a greater success,—it is "Worth while," worth YOUR while and you should subscribe.

Write for Announcement and for sample copy, or better still, send your subscription—50c yearly.

Active agents wanted, splendid proposition. Advertising rates on application.

Jubilee Publishing Company
SUNNYVALE, CAL.

When writing advertisers mention Cultivator.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First-Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
—Circular Free—
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
Indian Runner Ducks Our Specialty
Special prize for best display at last Los Angeles Show. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Can fill large orders on short notice.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

NATURAL HEN Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16-page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

WE BUY ALL KINDS OF POULTRY
At Highest Market Prices Possible; Fancy as well as Table Poultry. Ship by express—we return all coops.
LAWSON'S = = 3420 Central Avenue, Los Angeles, Cal.

When writing advertisers mention Cultivator.

EL ORO POULTRY FARM
FRESNO, CAL.
Has dozens of Males and Females for sale in the following varieties:
BUFF, WHITE and BARRED ROCKS,
WHITE and BROWN LEGHORNS,
BLUE ANDALUSIANS, BLACK MINORCAS,
BUFF COCHIN BANTAMS,
BRONZE TURKEYS and
WHITE PEKIN DUCKS
Get your order and cash in at once. In connection herewith I offer my place for sale, on account of the fact that I do not have sufficient time to devote to the breeding.
Prices on stock, $1.25 each and upward.
H. H. HOLLAND, Prop.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

MAKE THE FARM ATTRACTIVE.

Social economists have been predicting for years that the end of the nineteenth century would see nearly all the population in the cities, but statistics tell us that the flow to the cities is about at a standstill, and probably will now return to the country. The rush and turmoil of the cities is sending more and more people to the country, where tired nerves can rest and people can live healthful and rational lives.

Now, in order to retain our own people and attract others, we must improve our surroundings. What is it that draws our boys and girls to the city? Music, art, theaters, beautiful residences with well-kept lawns, parks, where grass is trimmed to a decorous neatness and adorned with beds of beautiful flowers. What were their surroundings at home in the country? A bare front yard, or else one grown up in weeds with perhaps a few scattered shrubs or rose bushes, which were nearly excavated by the chickens wallowing at their roots, chicken feathers scattered all around, and in the back yard, most neglected of all spots on the farm, all manner of trash and dirt, broken plows, harrows and other farm trash. Even where the front yard is kept fairly orderly and neat in a majority of cases the back yard will be an eyesore to all beholders, as the Irishman put it, a Queen Anne front, but a Mary Ann rear."

Now, this should not be. The family spend most of their time in the back yard. Not once a day, on an average, do they pass through the front yard. The busy parents say they haven't time to clean up, that the burdens are heavy enough now. It will not take much time and the children can do most of the work.

Order is nature's first law. Were it disregarded the whole universe would fall. So in our small way we must have order. Have a place for everything, but don't let that place be the back yard. Keep the farm implements at the barn, where they belong. Have a store room to put all household utensils, such as tubs, barrels, buckets, mops, etc. Bury or burn all trash; be clean, and again I say, be clean. It is well said "cleanliness is next to godliness." After order and cleanliness comes beauty. We cannot have one without the other. Our yard now being neat and in order, we will undertake to beautify it by adding trees, flowers and vines. In the first place, have shade. A few trees rightly placed will shade the back door, making it cool and pleasant during the summer heat. If trees cannot be used, make an arbor, covering it with grape vines, which will yield both pleasure and profit.

WOEFUL WILLIE.

Willie's papa had some pants he bought in '92,
And Willie's mamma wisely said, "For Willie they will do,"
And then she cut those trousers down to make them Willie's size,
And shaped them here and shaped them there in a manner to surprise.
I do not say a blessed word; I never will, I vow,
But, oh, my friends, my stricken friends, you should see Willie now!

—A. J. Waterhouse in Sunset Magazine.

The good care of your stock does not stamp you as a sentimentalist, but as an economist.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

I am offering some exceptional yearling breeding stock at a reduction for the next 30 days to make room for growing stock Prices on application.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

Good Incubators

At Reasonable Prices. Send for Catalog and Poultry Book.

Dean's Place

2509 Central Ave. Los Angeles, Cal.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

ASK YOUR DEALER FOR IT

Calfalfa Meal

ASK YOUR DEALER FOR IT

The Great Vegetable Feed in the Best Mechanical Form for Feeding all kinds of

Stock and Poultry

Better than Bran, Shorts, Middlings or Oil Cake meal, and much cheaper.

A Pure, Unadulterated product of California Alfalfa, especially cured and treated.

The only Green Feed to be had during the entire season.

The best feed for animals intended for the show ring.

BOOKLET

Giving full particulars and instructions for feeding.

Prices for Ton and Car Lots on Application.

Calfalfa Meal

Is a superior feed for young chickens, all kinds of poultry; growing pigs, stock hogs and brood sows; sheep and lambs; young calves; dairy cows, horses and brood mares.

A pure protein feed, especially adapted to be fed to all kinds of growing stock.

Calfalfa Meal

Regulates the bowels, cools the blood, and makes bone, blood and muscle.

Enables the special organs to perform their functions.

Ask your dealer for it, or write the manufacturers for trial order.

Prices for Ton and Car Lots on Application.

MILLS
West and Nielsen Aves

California Stock Food Co.
FRESNO, CALIFORNIA

OFFICE
121 FORSYTH BLDG.

General Agricultural Notes

A REFORM AT THE WEST.

The Marysville (Cal.) Appeal is of opinion that "the days of one-crop farming are passing away" in that State, the adoption of Eastern methods having been actually forced upon the farmer on the Pacific coast. The Appeal says:

Eastern people who visit California and go out into the country districts meet with surprises. If they are visitors of the observing class, the thing that most impresses them is the fact that Chinese gardeners in certain districts in the State travel about from farm house to farm house selling vegetables. To the Californian there is nothing incongruous in seeing a Chinese vegetable vendor traveling about from house to house in a country where the finest vegetables on earth can be raised, and at each house finding a ready market for the products of the soil that he carries with him. California is a country of big things, and the rancher with many acres of grain or fruit land to look after has no time to devote to such petty affairs as raising early garden truck for the home table. It would take time and money to cultivate vegetables, and it is much cheaper to buy from the gardener than to produce at home.

Thrifty farmers from the East find another source of surprise in the fact that many California ranchers who till countless acres and at the same time raise live stock, buy all the butter that is used on the family table and to supply the employes on the ranch. Like the vegetable proposition, the butter question is also easily explained.

When it comes to a matter of education, however, the Californian is not slow in grasping a situation. The younger generation of farmers see that the day of big things is past and that there is more money to be realized from diversified farming. The change is being brought about gradually. A representative of the Appeal had to travel but a short distance, from Yuba City, over the recently established rural free delivery route known as No. 1 to realize the changes that are being made. Wheat is giving place to cattle, and the acreage sown to barley and oats is decreasing year by year. Grain crops are not what they were a decade ago, and the man with progressive ideas has discovered that several hundred turkeys or a flock of industrious hens are not bad assets to have around in a year when that insidious enemy of grain known as "rust" makes its presence felt. Many wheat fields on which grain was grown in former years are being converted into fruit orchards or vineyards, and the young trees and vines look well.

CAUTION TO PURCHASERS OF FERTILIZERS.

Farmers are requested not to purchase fertilizers that are not labeled to meet the requirements of the law, and not to attempt to purchase them from any one but registered dealers or their authorized agents. Any farmer who purchases fertilizers under any other conditions does not deserve the protection of the law, and the manufacturer or dealer who does not label his goods according to the full requirements of the law is liable to prosecution and should in nowise be patronized by formers. It is quite liable to happen, and does happen, that now and then a manufacturer may miss his guarantee without intending to do so, but it is impossible that he would have his labels printed in non-conformity with the law without doing so either intentionally or through gross carelessness. Farmers can render great assistance in enforcing the law by observing the above caution.

During the first two years of the operation of the fertilizer law, some irregularities in the matter of labeling have been met with, but in all cases the manufacturers and dealers concerned have protested that they were unintentional and were the result of a misunderstanding of the requirements of the law. In most instances such has appeared to be the case; but there is no longer any reason to believe that all concerned do not fully understand the requirements of the law.—From Bulletin Number 171, Agricultural Experiment Station, Berkeley.

DESTROYING HUMUS.

In talking with an agricultural scientist the matter of the loss of soil humus came up. He lamented the fact that our farmers have so generally eliminated a large part of the humus from their soils without recognizing the process by which they were doing it. The old practice of summer fallowing, that is, plowing the ground in the spring and fall and harrowing it long enough to keep it bare in the summer, was fruitful in destroying the soil humus. The dryer and harder the summer, the more humus was destroyed. The action by which it was destroyed is a chemical one. It is usual to plow only about six inches deep. This plowing leaves perhaps an inch of the surface exposed to wind and air. This surface dries out, and from it all moisture disappears. If the surface is a fine dust, as is the case when a harrow is used in a dry time, chemical action is active among the dust particles with the result that all the organic matter is burned up and changed into gas that escapes in the air. This principle is recognized by scientists and is applied in the dust closets of residences. In such cases it is recognized that the chemical action going on in the dry dust entirely annihilates all organic matter, even destroying the last traces of paper or cloth that may be in it. Such dust, when analyzed, shows no more fertility than common dust taken from the roadway. The humus has been burned out of it. Therefore, when the field is subjected to summer fallowing and one inch is exposed each year to the action of this chemical process, all the humus which is in the soil to the depth of the plow has been annually annihilated. The fact is the disquieting element of the dust mulch wherever used. It is probable that while we are using the dust mulch to retain moisture in the soil, we are at the same time very rapidly destroying humus. This factor has not been given enough consideration in the investigations as to the use of the dry mulch. Wherever the surface soil is protected by shade trees, and the ground has not become dry enough to sun and heat, it is easy to believe that at least 16 per cent of the humus that becomes dusty, there can be no objection to using what is called the dust mulch, as it will then not be a dust mulch, but a loose soil mulch. We hear about the loss of soil humus in the continued growing of certain crops, but it is probable that the chief loss comes from the drying up of the surface soil.—Farmers Review.

SEASONING FARM IMPLEMENTS.

Now is the time to leave all mowing machines, harvesters, and other horse implements out in the field to obtain the benefit of the fall weather. Plows and harrows will, of course, be needed yet and these can be kept under cover for a while, but can be left out later during the fall plowing. This practice of fall weathering of implements is quite general in many farming sections and is encouraged year by year by a large class of farmers. It insures proper weathering of the wood and secures to the metal parts of the machinery a fine brown color. The practice is an entirely satisfactory one to the implement manufacturers as a class.—Farmer's Sentinel.

The dairy output of this State increased $2,212,596 in 1903 as compared with 1902. Counties that produced 1,000,000 pounds of butter or more in 1902-03 were as follows: Humboldlt, 3,935,786; Marin, 3,922,318; Sonoma, 2,540,489; Los Angeles, 1,996,438; San Luis Obispo, 1,369,186; Sacramento, 1,341,897; Fresno, 1,293,158; Stanislaus 1,162,561; Tulare, 1,090,448.

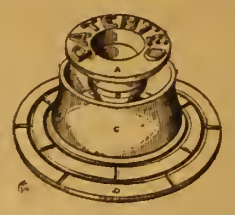
Have a can of clean, sweet lard at hand in the stable and if the cow's teats are chapped, apply a little of the lard immediately after milking.

Over in Redlands some people use dynamite instead of plows to loosen soil in their orchards. This fact came to light in a suit filed for a balance alleged to be due for dynamiting an orchard. The complaint set forth that the plaintiff contracted to loosen the orchard for 75 cents for each hole drilled and that he drilled, loaded and discharged 385 holes before the orchard was sufficiently opened to be plowed and trees planted.

THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

The Star Oil Burner
Its Own Gas Maker



Not an experiment, but a practically tested and successful invention. No superior for safety, simplicity, economy and durability. Without bolts, screws or rivets. Free from soot and smoke.
STATE AND COUNTY RIGHTS FOR SALE
For terms or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation

LOS ANGELES PACIFIC R.R.
The Balloon Route

Takes In All New Towns
In the frostless belt from Los Angeles to Santa Monica canyon

Takes In All Beach Resorts
From Santa Monica Canyon to Hermosa and Redondo.

Takes In All Suburban Towns
Between Los Angeles and the ocean.

Takes You In
And gives you more for your money than any ride in the world.

GENERAL OFFICES: 316 W. Fourth St.
Los Angeles, Cal. E. P. Clarke, Pres.

GOOD FOR ATHLETES

The California Limited Log-Book:

Sam Solomon, of Frisco, insisted that we go East on the Santa Fe, so we embarked on the Limited. So here we are about to enter Chicago at our journey's end, and we wish to say that the "Santa Fe" is the best equipped overland route; we have traveled them all. The Fred Harvey dining service cannot be surpassed for quality, quantity and service, and the Santa Fe equipment and crew service is to be commended. We thank the train crew and the dining service crew for their kind attentions.

Yours sincerely,
Two Healthy Athletes,
MARION HART,
JACK CORMICE,
Chicago, Ill.

SANTA FE IS THE WAY

SHASTA ROUTE is the way to the great
SOUTHERN PACIFIC

LEWIS & CLARK EXPOSITION

Take a vacation trip to the thriving Northwest, visit Portland and see its uniquely interesting exposition. The Shasta Route is famous for its wonderful scenery—Sacramento Canyon, Mt. Shasta, Siskiyou Mountains.

REDUCTION IN RATES—
$28.00 ROUND TRIP
Exposition closes Oct. 15. Information at 261 So. Spring St., Los Angeles
SOUTHERN PACIFIC

Queries and Suggestions

HOW TO MAKE SORGHUM MOLASSES.

Editor Cultivator:—I have ten acres of club-head sorghum which I wish to make up into molasses. What is the best step to take to obtain the same?—J. M. Holtville.

We would advise you to write the U. S. Department at Washington for the latest bulletin on this subject. However, a simple machine can be constructed which will do your work. It consists of three small iron rollers with a crank to which a wooden lever is attached, pulled by one horse, and, in addition to the rollers, an evaporating pan, which can be mounted in a crude way on masonry over the furnace. The best grade of syrup cannot be made in this way, because the heat can not be properly controlled with an open and direct fire. Second, a product of even grade cannot be obtained. This primitive method does not provide for the removal of the dirt except that which collects in the scum and is removed with it.

We would advise you to write to Toulouse and Delorieux, 618 Commercial street, San Francisco, for information as to where to purchase simple machinery.

A NEW FORAGE PLANT.

A subscriber in San Diego County whose letter we have mislaid sends in a plant from the mountains which he says the stock eats with avidity. The specimen sent, while in poor condition for botanical determination, seems to be a Clarkia, presumably C. elegans. We doubt if anything could be done in introducing this plant for stock food, at least not on an extensive scale and the work would prove costly.

SCALES AND SPORES.

Editor Cultivator: I send herewith leaves of a palm and a fern, both infested with scale insects. Please tell me what to do to get rid of same.—Mrs. J. E. L., Redlands.

The scale on the palm is easily got rid of, washing with strong soap-suds will do. We find nothing ailing the fern leaf; it is heavily covered with seed spores and as these closely resemble scale, we presume our correspondent has taken them for such.

BEAN WEEVIL.

Editor Cultivator: How may I prevent Bean Weevil from getting in my Kentucky Wonder Beans?—J. F. S., Glendora.

The only way to keep the weevil out of the beans, presuming you mean the warehouse weevil, is by keeping them in perfectly tight bins or other receptacles free from the pest. If you already have them and wish to be rid of them bisulphide of carbon is the best remedy. This must also be used in a tight bin or room, does not hurt the beans in any way; but is highly inflammable, so must be kept from fire and used during the day.

ORANGE AND OLIVE GRADERS.

Editor Cultivator: Can you tell us who are manufacturing the Orange Grader, patented by A. W. Woodward of Rockford, Ill. The patent was sold to Messrs. Fay & Stebler of Riverside, but we understand that this firm has changed.

What grader do you recommend to us. We want one that will grade both oranges and olives.

Thanking you in advance for any information in this line that you can give us, we are—Yours truly, Munger Bros., Phoenix, A. T.

The grader above noted is now manufactured by Stebler & Gamble, Riverside. The Pasadena Orange Growers' Association have one of them and are well satisfied with it.

For olive grader write to Toulouse & Delorieux, 618 Commercial St., San Francisco.

WATER WITCH NONSENSE.

A Central California correspondent writes to ask if there is any virtue in the "water witch" nonsense which bobs up serenely every twice in a while and in which some credulous people still believe.

There is absolutely no truth in the claims of these "water witch" followers. Hundreds of our best scientists have tested the matter, ever since this nonsense was first mooted, and they are unanimous in stamping the theory and practice as a humbug, not of "the first water," but of "no water."

TOO MUCH WATER.

Editor Cultivator: I planted red gum (rostrata) trees last spring when they were 2 feet high. Some of them are as high as 8 to 10 feet now and on account of their rapid growth the trunk is not able to support their tops and they bend down flat to the ground. I then put a post alongside of them 4 feet high and tied them to it so that part of the tree has to stand straight but the tops of a great many are still hanging down. Will they straighten up as they grow older or will it be better for me to cut the tops off so the nourishment will go into the trunk and strengthen it.—Yours truly, F. K.

It would seem from your description that the trees have had too much water. However, we would top them as the most economic treatemnt; cut off to a bare pole as high as you can reach and you will probably have no further trouble with them.

AN IMPOSITION.

Editor Cultivator: In view of the fact that there is a possibility that the tariff may be revised in the near future, permit me to call attention to the fact that basic slag meal, which is a most valuable and important source of phosphoric acid for a large proportion of the soil of this country, is now subject to a duty of $1 per ton. So far as I am aware, this is the first case where a duty has been placed upon a substance which is used for manurial purposes. In this instance the duty was falsely levied by virtue of basic slag meal having been wrongly classified as an iron ore. It is in no sense an iron ore, but on the contrary it is a by-product produced in the manufacture of Bessemer steel from iron phosphate. It is an imposition upon the farmers of this country that a duty was levied upon this material and the blame is probably to be laid at the doors of the steel trust. Whether the manufacturers of ready mixed commercial fertilizers were in any way to blame, I cannot say, though I very much doubt it.

Steps are being taken to have this matter brought to the attention of the National Grange for the second time, and it is my hope that you will enter upon an immediate campaign, using every possible means to have this undesirable duty removed.

Very respectfully yours, H. J. Wheeler, Director.

LODGING of grain is caused by weakness in the stalk. Complete fertilizers, rich in POTASH, produce strong stalks (making lodging impossible) and full plump grain, rich in starch and of good milling quality.

Our books are free to farmers. Let us send them to you.

Address, German Kali Works, 93 Nassau Street, New York.

Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

Irrigating and Gardening.—The use of extra water in the garden is coming into use in the humid states as well as in the arid states. Wherever a stream can be turned or a pump installed with some cheap force to work it, the use of water in the garden is desirable. A little water at the right time is worth more than an abundance of water when it is not needed. The water is an assurance that the crop will not fail on account of drouth.

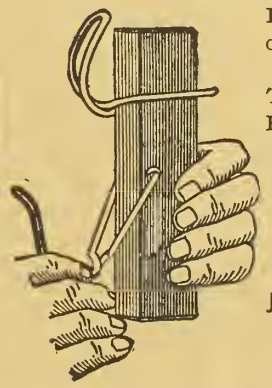
MAIERS WALNUT HULLER

One man can do the work of twenty. Can be moved in the orchard and worked without water and run by hand or power. Circulars free.

G. F. Maiers, Goleta, Cal.

When writing advertisers mention Cultivator.

Woodward's Patent Adjustable Prop Bracket



Does not get out of order.

The Best Bracket Made.

$17.00 Per Thousand

Manufactured by J. K. Woodward & Co. Riverside, Cal.

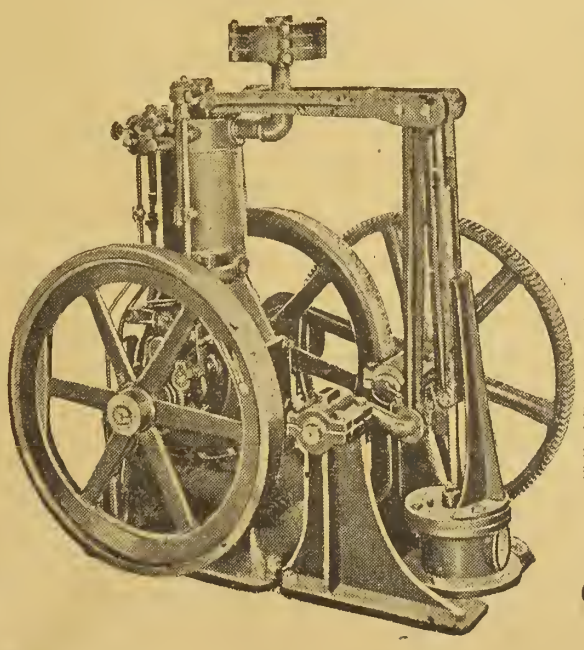
When writing advertisers mention Cultivator.

Peas 500,000 Pounds Two Hundred and Fifty Tons Peas

Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

When writing advertisers mention Cultivator.



Little Wonder

That's its name. Little wonder it is that that is its name and that it is so exceedingly popular. It's cheap. It's effective. And it's so handy and always ready. Runs the pump, the cutter, the grinder, the churn — any old thing on the ranch. Look it up right away, because you will be interested.

Wm. Gregory
602 No. Main St
Los Angeles

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

OCTOBER'S BRIGHT BLUE WEATHER.

O suns and skies and clouds of June,
And flowers of June together,
Ye cannot rival for one hour
October's bright blue weather.

When loud the humble bee makes haste,
Belated, thriftless vagrant,
And golden rod is dying fast,
And lanes with grapes are fragrant;

When gentians roll their fringes tight
To save them for the morning,
And chestnuts fall from satin burrs
Without a sound of warning.

When on the ground red apples lie
In piles like jewels shining;
And redder still on old stone walls
Are leaves of woodbine twining;

When comrades seek sweet country haunts
By twos and twos together,
And count like misers hour by hour,
October's bright blue weather.

O suns and skies and flowers of June,
Count all your boasts together,
Love loveth best of all the year
October's bright blue weather.

—Helen Hunt Jackson.

The Borrowed Baby.

Ted pulled his cap down over his ears and drew on his mittens. He hoped he would not have very far to go. He was out to borrow a baby, and although he was rather particular as to what kind he wanted, he did not anticipate any difficulty in finding one.

He did rather wish it was summer, for he remembered that he had seen a lot of babies in the park in the warm weather, and it would have been easy work to borrow one of those. Now, he thought, he would have to go to some house and ask for one.

He had heard the nurse say that if the baby had lived his pretty stepmother might have rallied, but as it was they had very little hope of saving her life.

Ted had not cared particularly for the baby, but he loved his new, sweet mother very much; he had been without one a long time and to be a little boy without a mother is very sad.

So he reasoned that if it was on account of the loss of the baby his mother might die—he would go out and borrow one for her, so that she could get well.

Luck was surely with him, for he had not gone very far when he saw a woman come out of a house with a baby in her arms. She stood as if uncertain which way to go. She was not a very nice woman, Ted thought, but the baby looked nice, so he stepped up to her and said: "Please ma'am, could I borrow your baby for a while?"

"Lord love it, what's this?" said the woman, and sat down on the steps. "Yer want to borrow the baby, do yer?"

"Yes, please, ma'am, I need a baby very much."

"Ho, ho, ha, ha! If that don't beat the Dutch! Yer need a baby—well, I don't. I was just wondering what place I'd better take this one to—the 'sylum or the station house. Its mother lodged in my house, and she went to the hospital and died. "Well," she said, half to herself, "if it wouldn't be an easy way to get rid of this yere kid to give it to that other one. "Here" she said suddenly to Ted, "take the baby and run along with it." And she hurried into the house and shut the door.

"Here, nurse, I've brought a baby for her so she won't die," said Ted when he marched home, very tired, but very happy at his success.

When the nurse heard his whole story she took Ted in her arms, together with the "borrowed baby," and with a mingling of smiles and tears, said: "I'll try it."

She dressed the baby in the pretty clothes of the little one that was gone and took it upstairs to the sick woman. With a sigh of content the invalid clasped it to her and went to sleep—a quiet, deep sleep which spoke of recovery.

"I suppose, father," said Ted one day, when his mother was pronounced out of danger, "I 'spose its time to return the baby." He looked troubled as he said it, for the baby had won a large place in his heart.

"No," said his father, "I think, Ted—I think we'll keep your 'borrowed' baby forever!"—Boston Post.

EDUCATING OUR GIRLS.

The father of a family of girls residing at Hollywood, was talking the other evening, on his way home, about the different dispositions in his girls. One, he said, cares nothing about household duties, but wishes to spend her time at the piano, another one prefers to read light literature and is crazy to attend the theater; the third, a real sensible, sturdy young one, about 8 years old, has the home instinct and wants to mother everything from the doll and kitten to the chickens and the calf.

This father seems a good deal disturbed because all his girls do not run to music. He is musical himself and he has an ambition to have a family of accomplished musicians which will shine in the community as a credit to his household.

Most parents like to have their daughters have at least one accomplishment, and the first thing usually suggested is music—too often it is the only thing suggested. A musical education is a very nice thing; it affords entertainment for friends, it is a source of pleasure to the girl herself and sometimes it is a means of livelihood. If a girl has a natural taste for music and her parents can afford to give her a musical education, all well and good; but music is not the only thing. Many parents have been disappointed because, after years of expense and exertion, their daughters have not become musicians, and many a girl has spent tedious hours at an instrument trying to get her music lesson. If the girl has no real taste or talent for music, it is a hopeless case, for it will be but a failure in the end.

There are so many avenues of education open to the girl of today, it seems as though one ought to be picked out which is congenial to her taste and one which she will succeed in. Drawing and painting are nice accomplishments and they fit in well in after years when the home is to be decorated and kept. If a girl shows an inclination to drawing or painting, that taste ought to be cultivated. It will make for good in mature life. Either one leads to exactness, which is necessary in every girl's life.

It may be, however, that a girl has talent for neither music nor drawing, or a competent instructor may not be in reach, or such instructions cannot be afforded, but she or her parents should not be discouraged. There are other things which are just as cultivated and just as beneficial as either music or drawing. She may become a good reader; it may be to commit and recite or simply to read aloud and do it well. With a little good instruction, one can accomplish much along these lines by herself, and there is much more to accomplish than is commonly supposed.

If we had a girl who showed the slightest inclination to floriculture we would give her place in the garden to vent her ambition in plant raising to its fullest extent. Nothing is more healthful to a growing girl than outdoor exercise, and few things mould her character more than the care of flowers. It sweetens her disposition, makes her homelike, and brings roses on her cheeks as in her garden.

But after all is said and done don't neglect the kitchen. But hear what an accomplished housewife says on this point: "The art of cooking is too often shunned, but who will question that the ability to do good, wholesome cooking is a practical accomplishment? One hour a day, the time usually spent on music, spent on any of the above-named subjects will accomplish marvelous results.

The subject chosen should be one to her liking, then each girl should carry it out with a determination to completion if possible. One mistake too often made is in poor instruction. Errors are hard to unlearn, and bad habits are hard to overcome. Poor instructors are dear in the end. A few lessons from a good teacher are far better than years from a poor one. The girl who has a general education and then becomes a good reader, is versed in literature or history, is a writer, a linguist, a penman, or a good cook is just as accomplished as the one who becomes a musician or an artist."

SPANKED AN EARTHQUAKE.

"I tried to kick the first earthquake I ever encountered," said a man in conversation recently. "It was down on a West Indian island. The table I was writing on began to joggle and I thought it was the dog rubbing against the leg. I launched a kick at him and found that I was trying to kick an earthquake.

"Well, I did worse," said a woman who had spent several years in Mexico. "It was boiling hot, and, like every one else, I took a siesta in the middle of the day. I wanted my two youngsters to take it with me, as I wished to keep them in out of the sun, but they were not always sleepy. One day they had been particularly obstreperous, rousing me from my nap two or three times. The last time I said to them, "The next one that wakes me up will get punished." I dropped off again, but in a few minutes was aroused by a cataclysm, it seemed. I opened my eyes and saw a washstand turned over, the pitcher and bowl broken and Ed standing by with a scared look on his face, which seemed to plainly proclaim guilt. I sprang up, caught him in one hand, and, with a slipper in the other, had him well spanked before his howls communicated to me the fact that I was trying to spank an earthquake."

NATURAL CHEERFULNESS.

Cheerfulness is just as natural to the heart of a man in strong health as color to his cheeks; and wherever there is habitual gloom these must be either bad air, unwholesome food, improperly served labor or erring habits of life. —Ruskin.

Old age likes to dwell in the recollections of the past, and, mistaking the speedy march of years, often is inclined to take the prudence of winter time for a fit of wisdom of midsummer days. Manhood is bent to the passing cares of the passing moment, and holds so closely to his eyes the sheet of "today" that it screens the "tomorrows" from his sight.—Kossuth.

YOUR EASTERN FRIENDS

Should know that the Low Colonist rates are now in effect from Eastern Points to Southern California via the

SALT LAKE ROUTE

From Chicago	$33 00
" St. Louis	30.00
" Kansas City, Omaha, Council Bluffs and Missouri River Points	25.00

Fast Time — SALT LAKE ROUTE — Elegant Equipment

Through Tourist Sleepers Daily between Chicago, St. Louis, Omaha, Kansas City, Hannibal, St. Joseph and Los Angeles.

Information gladly furnished by any representative of the Salt Lake Route, or by addressing

E. W. GILLETT, Gen. Pass. Agt. T. C. PECK, Asst. G. P. Agt. Los Angeles, Cal.

BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

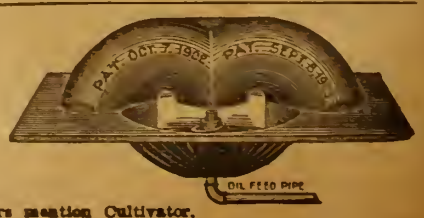
Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES



When writing advertisers mention Cultivator.

Cookery Recipes

COOKING CHICKEN.

Baked in Cream.—Clean and cut up a spring chicken. Season with salt and pepper, dredge with flour, and place in a baking pan. Cover and cook till done, basting with a cupful of cream and a half cupful of melted butter, mixed. This is a Southern recipe.

Steamed.—Use a tender chicken for this dish. Clean it and lay it in milk and water for three hours to whiten the flesh. Wipe and stuff as for roasting, and steam until tender. Make a cream sauce, adding to it two or three chopped hard-boiled eggs and a little chopped parsley. Make the sauce quite thick and pour over the chicken.

Smothered.—Clean and cut up a tender young chicken, season with salt and pepper and dredge liberally with flour. Have ready a deep baking pan, very hot, with two tablespoonfuls of butter in it. Put in the chicken, sprinkle with flour, add a quart of boiling water and cover tightly, so that no steam can escape. Cook an hour and a quarter in a very hot oven. Do not uncover until ready to serve. Make a sauce of butter and flour and the liquor remaining in the pan; season to taste, pour over the chicken, sprinkle with chopped parsley and serve at once.—Brown Book.

* * *

Flannel Cakes.—Into a pint of hot sweet milk put two tablespoonfuls of butter. When melted, add a pint of cold milk, the well-beaten yolks of four eggs, one teaspoonful of salt, four tablespoonfuls of potato yeast, sufficient flour to make a stiff batter. Set it in a warm place to rise for three hours, or over night. Before baking add the beaten whites of the eggs, fry like any other griddle cakes.

* * *

Bread Cakes With Cornmeal.—Soak stale bits of bread in one quart of sour milk, overnight. In the morning, rub them through a colander, add the yolks of four eggs, wellbeaten, two teaspoonfuls of soda dissolved in a little water, one tablespoonful melted butter and enough corn meal to make it the consistency of griddle cakes. Beat whites to a froth and stir in just before baking. If sweet milk is used, take two teaspoonfuls of baking powder instead of soda.

* * *

Bird's Nest Pudding.—Pare and core without quartering, enough apples that will cook quickly, to fill a pudding dish; make a custard of one quart of milk and yolks of three or four eggs, sweeten, spice, pour over apples and bake. Beat the whites of the eggs to a stiff froth, beating in a teaspoonful of sugar for each egg, crown each nest or apple with this meringue, brown lightly and serve either cold or hot.

SELECTING FRUITS AND VEGETABLES FOR CANNING.

Although the canning season is practically over the following timely suggestions from the pen of A. Adel Thompson, in Farmers' Tribune on fruits and vegetables to be canned will be read with interest and may be laid away for future reference:

Many housewives have the idea that in canning fruit one may use the smaller, dwarfed, mis-shapen fruits or vegetables from the orchard or garden with the same results that would be obtained from the use of the very best. This idea is erroneous. The best material must always be used to obtain the best results. A windfall does not taste so well when eaten raw as does a good, well-formed, well-developed apple. Then why should it be any more palatable when cooked. Then again, poor fruit does not stand the same chance of keeping with the better material because of the difficulty with which well-seated, living germs are destroyed. These germs are often found on poor fruit and in fact are often the cause of inferior fruit.

Those fruits and vegetable which are the most perfectly formed and have the best flavor are the most likely to be free from germs. In gathering from the orchard there will be little difficulty in selecting the best. The greater task will be undertaken if one must depend entirely on the markets. If possible go to the public markets early in the morning; select the best looking fruit or vegetables and buy direct from the gardeners. If this is not possible, select a good reliable commission house or grocer; look over the material you wish to purchase and select that which is the most practical and economical.

Freestone peaches are more economical for canning and preserving, because less of the pulp is removed with the pit. The clingstones are the best for pickling because they are smaller and the pit clings to the pulp and so keeps the pickles from falling to pieces.

Use a medium-sized pear for canning and the large pear for pickling.

The old-fashioned crab apple seems to be fast becoming a mere memory, but in its place we have a good substitute in the strawberry crab apple. This apple should be used for pickling and if pickled a little under ripe it keeps its shape better. Many people have felt badly because the harvest apples do not have a good appearance when canned. The harvest apple may be kept intact, if pared, cut into eights and soaked in cold water over night. Then cooked in a syrup, using the water in which the apples have been soaked.

Of all fruits and vegetables canned, perhaps the one which gives the most trouble is the tomato. The trouble lies largely in the fruit selected. Tomatoes are quite susceptible to disease. Use only those which are well formed and free from black spots or specks. Select the medium-sized ones. They are less coarse in texture and of a more delicate flavor.

DO CHEAP LINENS PAY.

Every young house keeper is anxious to know whether it pays to buy cheap table linens. The Cultivator has had enquiries before on just such domestic economic matters. To enlighten the young housewife on the buying of cheap linen, read the following from S. H. H., in The Iowa Homestead:

"A young housekeeper just beginning in a modest way to keep house asks the question: "Is it economy to buy cheap grades of table-linen for every-day use, or is it best to buy the good and take extra care of it?" This young housewife reads the Home Department every week and gets many excellent recipes from Among Ourselves. She says one is certainly wise in investigating and trying to find out in regard to table-linens, for I think the table is one of the most important items in a well-kept home. My grandmother's advice to her grown-up daughters was to always buy the better quality of table-linens, as it will prove to be true economy in the end. They will retain their softness and gloss until old and worn out. To have an attractive table one must have well-laundered table-linen and it is also economy to have enough changes of linen so as not to have them washed so often. The proper way to launder is to make a good suds of tepid water and add enough good washing powder to make a nice suds or lather. Very little rubbing should be done, and they should be rinsed and hung in the shade to dry or put them out on the grass to dry. Iron with hot irons while damp.

A WOMAN BUILDS A TOWN.

Women's activities in this progressive century are practically uncircumscribed and unlimited, yet such an accomplishment as the founding and building of a town by a woman seems almost an impossibility. The impossible however, has come to pass in the steady growth and prosperity of the little town of Preston, Sonoma County, California, which came into existence through the work of Mrs. H. L. Preston, formerly a Connecticut woman, who, upon the death of her husband, less than a decade ago, found herself the owner of the homestead, a prosperous fruit farm. Possessing natural qualifications as a nurse and physician, Mrs. Preston had acquired something of a reputation in that line and many persons came to her for treatment. The necessity for providing for them suggested the idea for building a town, and a number of houses were put up. Then Mrs. Preston built a school house, and for six years taught the children herself. A church was built and she became the preacher. The needs of the little town drew mechanics and merchants, and though Mrs. Preston does not care to sell property, tenants are given a life tenancy free. No liquor is sold in the town. Mrs. Preston has had bridges constructed, the roads kept in order and new ones made at her expense. In the summer her tenants go to a lake resort she owns in the mountains, comprising a lake and ten acres of land, where camping facilities are furnished them free of charge.

The little community is prosperous and happy, and apparently appreciative of the genius and generosity of the woman who has created the ideal conditions under which they enjoy life.

It is doubtful if Mrs. Preston's success as the founder of a town has been equaled by any man or company of men, especially as contributing so satisfactorily to the comfort and general welfare of all who live within its boundaries.—Farmer's Wife.

Every inmost aspiration is God's angel undefiled,
And in every "O my Father," slumbers deep a "Here, my child."

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trademarks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phone 347
When writing advertisers mention Cultivator.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.
When writing advertisers mention Cultivator.

NORMAL SCHOOL
IN
FRESNO

If you want the *Best Normal Training* in the shortest possible time, or if you want a special course, literary or scientific, get it at Chesnutwood's in Fresno.

Teachers Prepared for Grammar Grade Certificates

The best training in Bookkeeping, Penmanship, Shorthand and Typewriting.

WRITE FOR PROSPECTUS.

Chesnutwood's Business College
at Fresno, or Santa Cruz, California
When writing advertisers mention Cultivator.

Oh! What A Difference
IN THE MORNING
Especially wash day morning when you use a
WHITE LILY WASHER
JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY
WHITE LILY WASHER CO.
1539 Rockingham Rd, Davenport, Iowa
When writing advertisers mention Cultivator.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.
When writing advertisers mention Cultivator.

VILLAGE AND COUNTRY IMPROVEMENT.

(Continued from First Page.)

mile, and to each owner of a 50-foot lot $5.07.

The advantages argued in behalf of the narrow and improved roadway are many, a few of them being:

First—The original cost is lessened.

Second—A sprinkling cart can cover a 24-foot pavement with one passage over it, whereas if the pavement is 30 feet or wider, it is necessary to go over the same block twice, thus doubling the cost of street-sprinkling. If the street is kept clean by sweeping, 24 feet will present one-fifth less surface than a pavement of 30 feet, which heretofore has been considered as the minimum width."

Third—There can be no question that greensward without its accompaniment of dust is more healthful for a community than a pavement.

Fourth—The wider boulevard affords more soil, more air, and more water to the roots of the trees in the boulevard, thus increasing their growth and beauty.

Fifth—The water mains, gas mains and wire conduits are in the boulvard, rather than under the paving, consequently the paving once down, need never again be disturbed.

Sixth—The narrow paving presents less surface for the accumulation of dirt and dust.

These are points quite pertinant, suggestive and well worth considering applicable to the country as well as the city.

There are in this county 6000 miles of roadway. The main driveways lead through the smaller centers of population and from thence to the greater center—Los Angeles. Well planned circuits from these smaller centers, might be devised, making delightful routes for tourists and our home people in their pleasure outings. These drives could be improved practically and aesthetically with great profit—profit in the enhancement of valuations and beneficial beyond the possibility of computation in ordinary terms. Pasadena has fifteen such circuits for tally-ho driving, which lead through groves, fields, foot-hills and neighboring valleys.

By cooperating with each other, the several boards of trade or civic leagues by united endeavor, could achieve all that is to be desired in the building and beautifying of the common highways between the principal points of the country.

This suggestion leads up to the subject of cooperation. Cooperation promotes a wider interest in human affairs. From one's outlook as a cooperator, one can see beyond the scope of his own environments, and have a more considerate regard for other agencies for the common good, besides that with which he may be immediately connected.

Clubs, or other bodies, by joining forces with other bodies, can usefully employ their abilities and exercise their sympathies. Those who are well-to-do and who have leisure can find new fields of pleasure in elevating the mind, thought and endeavor of the manual toiler, and thus promote the conception of new ideals in the minds of the people.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2¼ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.

Los Angeles Markets.

Los Angeles, October 12, 1905.

Butter.

Butter has materially advanced on fancy grades, but lower grades are unchanged.

B. of T. Creamery, per roll 67½
Valley Creamery, fancy 67½
Coast Creamery 55
Fancy Dairy ....47½@50
Cooking, per lb 24

Cheese.

Cheese has advanced slightly on all grades.

Cal 3-lb hand 17
Cal. Young America ... .16
California Anchor 15
Northern ....13@13½
Eastern 16
Imported do 27½
Domestic Swiss 18

Eggs.

Eggs are firm and the supply light.

Eggs, fresh ranch ....37@38
Eastern and Storage .....28@30
Seconds 24

Poultry.

Fryers, 2½ lbs 14
Broilers, under 2 lbs, per lb 16
Young Roosters, per lb ... .14
Hens, per lb .....13@14
Ducks, per lb 11
Turkeys, per lb ....17@20
Geese 11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt ....$5.50@3.50
Prime Steers, cwt 3.50
Cows, cwt 2.85
Calves, cwt 4.50
Sheep, ewes, per head 3.50
Lambs, do 3.25
Wethers, per head 4.00

Potatoes.

Northern, per cwt ... ...90@$1.00
Locals, per cwt ....90@1.00
Sweets, white, per cwt 1 00
Sweets, yellow ... .1.00@1.25

Vegetables.

Onions, Silver Skins, sks .....50@75
Onions, yellow, per cental .....75@85
Beets, per 100 lbs 75
Cabbage, per sack ... ...40@50
Parsnips, per sack ....60@65
Bell Peppers ....3@4
Cucumbers, per box ... .35@40
String Beans ....3½@4
Wax Beans 3
Green Onions, doz bunches ....20@25
Carrots, doz. bunches 30
Artichokes ....40@50
Turnips, doz. bunches .....25@35
Garlic ....6@8
Celery, dozen ....30@45
Peas, per lb ....2@3
Egg Plant 3
Chili Peppers, green 2
Chili Peppers, dry ....15@20
Tomatoes, local . ...25@35
Asparagus ....8½@10
Parsley, per doz bunches.....30@40
Summer Squash, bx 20 lbs ...25@35
Green Corn, per sack .. ..75@1 00
Lima Beans 3
Rhubarb 2½

Citrus Fruits.

Valencias ....$3.50@4.50
Lemons, standard ... .2.50@3.50
Lemons, fancy 4.50
Grapefruit ... ...1.50@3.00

Fresh Fruits.

Apples, 4-tier Bellefleur ...$1.00@1.25
Apples, 4½-tier Bellefleur .....75@85
Apples, 4½-tier Rhode Is. Grn 90@1.10
Apples, Red Pearmain 1.15
Apples, Gravensteins ... .90@1.10
Strawberries ... ...5@8
Logan Berries ....7@8
Pomegranates, per crate ... ..75@90
Peaches, per box ... ...75@1.25
Plums ....90@1.25
Figs, per box ....50@75
Black Figs ....50@75
Muscats ....85@1.10
Tokays ....1.00@1.50
Cornichons, lb ....5@6
Quinces, per box 75
Pears, Winter Nellis, per lb 3
Muskmelons, large crates ..2.00@2.50
Watermelons, doz ... .35@1.75
Guavas, per lb 4

Dried Fruit.

Peaches, fy, 9@10½; ch, 7½@8.
Apricots, ex ch, 11c; fy, 8½c; ch, 7c.
Prunes, 30-40, 8½c; 40-50, 7½c; 50-60, 7c; 60-70, 6½c.

Beans, Dried.

Limas $6.00
Pinks, fancy ....3.00@3.25
Lady Washington 3.25
Small Whites 3.75
Black Eyes 4.00

Nuts.

Walnuts, No. 1 soft shells 13
Do, No. 2 9
Do, No 1 hard shells 12½
Do, No. 2 hardshells 8½
Almonds, paper shell ....18@20
Almonds, soft shell ....18@20
Peanuts, California ....5@6
Peanuts, Eastern ....7½@9

Honey

Honey, comb, frames ... .12½@13
White strained, per lb ... .5@5½
Amber 4½
Beeswax ... .23@25

Hay.

Barley, new ... ...9@12
Alfalfa, local new ....11@12
Alfalfa, northern ....9@10.50
Wheat, new ....10.00@11.00
Tame Oat, new ....12@15

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ....$1.40@1.45
Barley ....1.10@1.12½
Corn ....1.25@1.35

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.25
Bran $1.30
Feed Corn Meal 1.45
Middlings 1.40
Wheat ....$1.65@1.70
Cracked Corn $1.50
Corn $1.45
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

San Francisco, October 11, 1905.

Dairy.

There was a shortage of strictly fancy Creamery Butter yesterday, and the general market was in an excited and unsettled condition, with dealers scurrying around in order to secure stock to keep their trade supplied. Prices as a result were largely nominal, and in some quarters as high as 30 cents was reported for the favored brands. while conservative operators, not anxious to attract Eastern consignments in this direction, were not disposed to ask over 29c. The market closed practically bare of supplies and with a strong upward tendency apparent.

BUTTER—Per lb:

Creamery, fancy ....28@29
Do, good to choice ....26@27
Dairy, choice ....24@26
California Storage .....23 @25
Eastern Creamery .....22½@24
Eastern ladle .....20 @21

CHEESE—Per lb:

California Creamery, mild, new, extra ....13 @14
Do, choice ....11 @12
Young America ....13 @14
Eastern ....15 @17

Eggs.

Eggs offered no new features, the market for Ranch holding about steady at the appearing prices although buying was of the hand-to-mouth policy. Storage eggs continued in sharp request and the quoted rates were maintained with marked firmness.

EGGS—Per doz:

Ranch, good to fancy ....36 @39
Ranch, selected large .....40 @41
California storage ..... 25 @28
Eastern, extra ... ...27@27½
Eastern, firsts ....24@26
Eastern, seconds ....21@23

Poultry.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $4.50@5.50 Fryers, $3.50@4; Broilers, 3½@4½; Hens, small, $4.50@5; large, $6@7; Live Turkeys, per lb., 21@23c; Spring Turkeys, 24@25c; Ducks, old, $4.50@$5.50; young, $4.50@6; Geese, per pair, $2; Goslings, $2.25@2.50; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $175@2.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, fancy, 85c@$1.00; common to choice, 40@75c.

Figs—per box, Black, 50c@$1, as to size of package.

Pears—Per box, Bartlett. $2@2.50; Winter Nellis, $1@1.50; other varieties, per box, 40c@$1.

Peaches—Per small box, 75c@$1; carrier, $1@1.15.

Table Grapes—Per box or crate: Seedless, $1@1.25; Muscats, 50@75c, Cornichon. 75@90c; Blacks, 40@65c; Tokays, 50@85c; Isabellas, $1@1.25 open boxes, 65c@1.25, as to variety.

Wine Grapes—Per ton, Zinfandel. $24@28; Mission, $19@23; White, $16@18.

Pomegranates—Per box, 65c@1.25.

Plums—Per box or crate, 50@90c.

Prunes—Per box or crate, $1.25@1.50.

Persimmons—Per box, $1.

Quinces—Per box. 60@75c.

BERRIES—Blackberries—Per chest, $3@4.

Raspberries—Per chest, $3.50@6.

Strawberries—Per chest, Longworths, $4@6; large varieties, $3.50@5; Santa Clara, $4@6.

Huckleberries—Per lb., 5@8c.

Cranberries—Cape Cod per bbl, $8.50@9.50; Oregon, per box, $3@3.25.

MELONS—Cantaloupes—Per crate, $1@2; Watermelons, per doz., $2@3.50; Nutmeg melons, per box, 40@75c.

Citrus Fruits.

CITRUS FRUITS—Per box: Oranges, Navels, $4@4.25; Valencias, $3@4.50; Lemons, $1.50@3.50; Limes, $4@4.50; Grape Fruit, per box, $2@3.

Vegetables.

VEGETABLES—Tomatoes, per box, 30@65c; Green Peppers, per box, Chile 35@60c; do Bell, 40@65c; Okra, per

box, 50@60c; Beans, per lb, Green, 2@3½c; do, Wax, 2½@3½c; Lima, 3@3½c; Garden Peas, per lb, 3@4c; Cucumbers, per box, 35@50c; Summer Squash, per box, 60@85c; Egg Plant, per box, 35@60c; Garlic, per lb, 5@5½c; Green Corn, per sk, 75c@$1; per crate, $1@1.25; Marrowfat and Hubbard Squash, per ton, $7.50@12.50.

ONIONS—Per sk, Yellow, 65@80c.

POTATOES—Per ctl: River Burbanks, 50@65c; Salinas Burbanks, 90@$1.20; Sweet Potatoes, Merced, $1.50.

Dried Fruits.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c; choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Prices per lb, f o b Fresno, are as follows: Bleached Thompsons, Seedless, extra fancy, 10½c; fancy, 9c; choice, 8c; standard, 7c; Bleached Sultanas, fancy, 7c; choice, 6c; standard, 5½c. Prices are for 50-lb cases, f. o. b. discount of 1½ per cent for cash.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Hops.

The price of desirable old crop is nominal at 12@14c per lb., according to quality.

Beans and Seeds.

BEANS—Prices per ctl for choice selections of new crop stock: Large White, $2@2.35; small, do, $3@3.25; Pea, nominal; Lima, $3.25@3.50; common shipping points, $3@3.25; Red, $2.75@3.25; Pink, $1.75@2.25; Bayos, $2.75@3.25; Blackeyes, $4.25@4.50: Red Kidneys, $3.50@3.75; Horse Beans $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $2@$2.25; Green $2.25@2.50; Field, $1.75@2.25.

Live Stock.

CATTLE—No. 1 Steers, 6½@6¾c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5½c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c, Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3¾@4¼c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $11.50@16.50; Wheat and Oat, $11@15; Oat, $8@12; Barley, $8@11; Clover, $7@10, Alfalfa, $6.50@9.50; Stock, $5@7.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $23@24.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26.50@29.50.

GROUND BARLEY—Per ton, $22.50@23.50.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

Flour and Cereals.

FLOUR—Net cash. Family Extra, $4.80@5.10 per bbl; Bakers' Extra, $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice No. 1 Feed, $1.06¼@1.08¾; some fancy grades up to $1.10; common to fair, $1@1.05; inferior grades, 90@97½c; Shipping and Brewing, $1.10@1.12½; Chevalier, $1.10@1.20.

OATS—Good to choice White $1.37½@1.45; Red, $1.35@1.50 for choice to fancy; $1.15@1.32½ for common to fair; Black for seed, $1.60@1.75; lower grades, $1.25@1.55.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large, Yellow, $1.45@1.50; small do, $1.60@1.65; White, $1.40@1.45; Eastern Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.35@1.40.

CITRUS MARKETS

The Eastern demand for both oranges and lemons is strong and good prices are being received for everything in good condition. Some Florida and Jamaica oranges are appearing in New York, but they are still immature and have not affected the trade in California Valencias. Lemons are in short supply and are quickly taken.

New York.

Two cars of Valencias were sold Friday, and one of lemons. One car of Old Mission brand, Fullerton, were fancy, and brought $8.07 on an average. The other car was only fair, but brought an average of $3.82. The lemons were in active demand and ranged from $5.37 to $4.28 per box.

Buyers manifested much interest in Monday's auction and two cars each of Valencias and lemons were quickly taken at top quotations. Oranges ranged from $6.35 for fancy Shamrock to $2.53 for Standard Owl brand. Choice Lilac lemons brought $3.36, Warrior, ex ch, $4.79, and Rescue, ch, $3.65.

Only one car of oranges was sold at Tuesday's auction, but the fruit was high grade Old Mission Valencias and brought the top price of the season, $2652.91, the range per box being $11.37½ to $4.37½.

One car of Valencias sold Wednesday. Indian Hill brand, ex fy, average l $6.65, but Old Mission was lower.

Chicago.

Lemons held up Friday under a steady demand, the supply being moderate. Sound stock brought $4.50 and $5.00 for 360s. Oranges were quiet with practically no fruit on hand. Valencias, $4.75@3.50; Grapefruit, $6@6.50.

Oranges were steady Monday with light offerings. Some Floridas and Jamaicas appeared, but were too green to be desirable. Californias ran from $5@$4. Green Floridas, $3@3.25. Lemons firm at $4@5.

Lemons were in moderate demand Tuesday at $5@5.50 for 360s; 300s, $5.50@6; 400s, $5.50. Oranges in small supply with firm demand bringing $4@5.50 for late Valencias.

Lemons brought $5@5.50 for sound stock, with firm demand. Oranges scarce, and selling at $4.50@6.

Boston.

There were no oranges or lemons offered Friday on this market.

Monday brought one car each of late Valencias and lemons, which were quickly absorbed by a depleted market. Oranges brought $290 to $6 per box and lemons $3.50 to $5.50.

One car of lemons Tuesday, which brought $2@5.50 per box.

No citrus fruits were offered in Boston Wednesday.

Philadelphia.

No oranges were offered Friday and only one car of lemons. Extra fancy lemons brought $5.05 and extra choice $4.65 per box.

Two cars of lemons were sold here Tuesday, bringing $5.30 for fancy, $3.05@4.70 for choice and $2.65 per box for standard.

Citrus Shipments.

The total shipments to date are 29,398 cars, of which 4283 cars were lemons.

TOOLS FITTED FOR THE WORK.

Some time ago the Cultivator printed a few articles on the advantage of deep cultivation of the soil in that it let the air down into the soil, made available the fertility, prepared the soil for entrance of roots into the lower levels, thus aerating the soil to a greater depth than is done with an original cultivation. We have said that deep rooting legumes or other cover crops accomplish the same purpose to a certain extent. But it is not every year nor every farmer who will succeed in securing the deep-rooting necessary to give the best results. But any one can certainly give the necessary deep cultivation if they will get the tools which are necessary for the work and then use the power to put the tools where they will do most good. That may sound trite and be a statement of fact which anyone can see but in actual practice it must be admitted that most farmers fail first in getting strong enough tools to do this kind of work, next in putting on the power required.

The farmer who wants a subsoiler of "light draft" will have a "light draft" job of subsoiling. This lesson is being learned by a very large number of the best farmers and today instead of the six and even nine foot cultivators which were formerly used, it is now more common to see the four and five foot cultivators and even then, two heavy draft horses are needed to secure the best results in most soils.

We asked a grower recently if four good, big mules would be able to pull a subsoiler plow on dry, hard ground, and while it may be said that under certain conditions it might be possible, we believe that eight or even twelve would be nearer the truth. To accomplish the best results, as we said in a former article, the subsoiling ground should be dry so that when the powerful subsoiler if forced through it, it breaks up and allows the air to enter the lower depths. The farmer who is waiting for the rains to some to soften his soil that he may subsoil easily is making a serious mistake.

After a heavy rain the subsoiler simply shaves through the softened ground making no impression whatever other than the immediate track of the tool. Subsoiling when the ground is dry will affect the ground for several feet either side of the track of the plow. Therefore put on the mules and do the subsoiling before the rains.

As to the depth, some say sixteen, some eighteen, some twenty-four. It depends something on the formation of the soil. In any case be sure to go under the plow sole which has been formed during the summer's cultivation in former plowings. Don't irrigate too soon, but allow the air to accomplish its work before the ground is settled. Then, after the rains, unless you have sowed a cover crop, use the cultivator in a way to reach as low depths as possible.

If desired to work under the trees instead of simply adding to the width by putting on an extension and retaining all other teeth, take off as many as are in the extension. Of course, it is not necessary to do as deep work under the tree as between rows but it should at least be done thoroughly.

In cultivation we find that this deep work may not be necessary at every cultivation. That is, some follow the plan of six or eight inch cultivation, then, in a chort time, following with the weed cutter as a surface smoother, also to remove any young weeds which may be started. But as one farmer has said, let the cultivators understand that weed killing is the lesser benefit secured from cultivation. Cultivation should be to aerate the soil and to keep it in the form of a mulch to prevent the escape of moisture. The preventing the escape of moisture is plain to all but the aeration theory seems to have but few followers with the cultivators.

So far as the tools are concerned to do this work, we believe there are none which have won the favor that the manufacturers of the Killifer-Griffith Co., of Los Angeles have had. The tools manufactured by this firm are built on lines which give the greatest of strength and rigidity, built with an understanding of all conditions. Others have appeared along the line of the tools of this company but under actual wear have not stood the strain as these have. In orchard and in beet fields, also in grain and alfalfa fields they have been given thorough trials and stand the test. The old Killifer cultivator has been given trial now for many years by orchardists of the State and to meet the requirements for greater strength, which is demanded by the present system of deeper cultivation, are now built along stronger lines than formerly.

NEW HONORS.

Gold medals again won. Merit is acknowledged. The medals won at Chicago, later at St. Louis, by Petaluma Incubators are now supplemented by another medal awarded by Lewis and Clark Exposition.

F. H. Gray, manager of Petaluma Incubator Co., writes us enclosing copy of following telegram: "Petaluma incubators and brooders just awarded gold medal at Lewis and Clark Exposition."

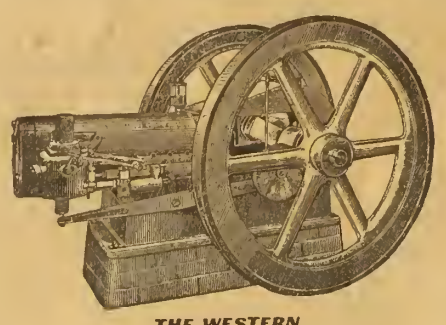
Only a short time ago we chronicled the award to this same company of the gold medal at St. Louis exposition which award was challeged but without effect. We are not informed, but doubt not there was strenuous competition for these honors, and congratulate the Petaluma people on their success in procuring the acknowledgement of the worth of their machines. This success has been acknowledged in a practical way for many years; it is also gratifying to have it come in this more public way.

Success to Petaluma.

Mule raising is no longer confined to Kentucky, Missouri and Tennessee, but is becoming an important branch of stock raising in Indiana, Illinois, Texas and some other States, without reducing the demand or affecting readiness of sale.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST
MOST SUCCESSFUL
ANY SIZE PLANT FROM 5 TO 500 H. P.
CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

When writing advertisers mention Cultivator.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

NATIONAL WOOD PIPE CO.

WOOD PIPE
WOOOWARO PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BOREO WOOO WATER PIPE

Made from California Redwood or Selected Puget Sound Yellow Fir
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
Puget Sound Office, Olympia, Washington
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

When writing advertisers mention Cultivator.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

When writing advertisers mention Cultivator.

MORTIPEST

Fumigating and Spraying Compounds for the Orchard and Garden

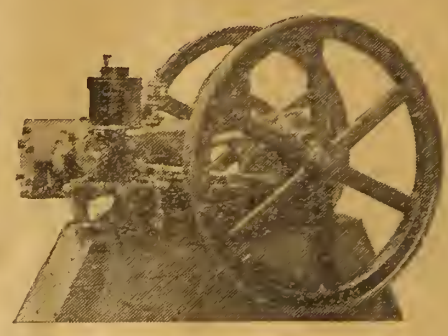
A thorough eradicator of all scale and insect pests. Cheap, effective and HARMLESS. We guarantee results. For full particulars apply to

HALL-JONES CO. - 2nd and Central Ave., Los Angeles

These very effective compounds are manufactured by the well known chemists, W. J. BUSH & CO., LTD., LONDON AND NEW YORK.

When writing advertisers mention Cultivator.

PROGRESS GAS ENGINES



Are constructed upon scentific principles after the most approved designs for steady work. It is an up-to-date engine and fully guaranteed. The cost of operating our 4½ horse power engine working at full speed is about 35 cents a day of ten hours.

Our special features are: High Compression, Positive Inlet Valve, Cylinder Bores Reamed, Sparker is of Hammer Break Type, Economy of Electric Battery. Write for descriptive Pamphlet and Price List.

Complete Pumping Plants Furnished

Progress Gas Engine Company
Telephone Main 5165 951 N. Main St., Los Angeles, Cal.

For Anything in the Plow Line ask us about the

SYRACUSE CHILLED PLOW CO.'S GOODS

Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the

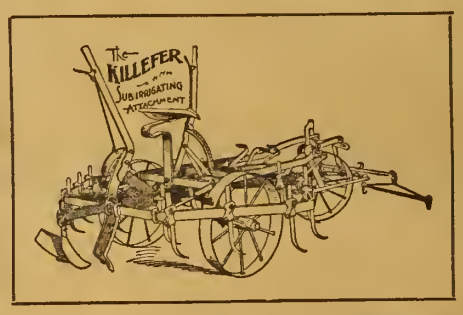
FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.

Have you seen the "New Harrison Wagon?"

L. A. MARTIN & SON
129 Wilmington St. Los Angeles, Cal.

Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.
2036 Palmetto St. Los Angeles, Cal.

When writing advertisers mention Cultivator.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants

When writing advertisers mention Cultivator.

California Cultivator

LOS ANGELES SAN FRANCISCO

OCTOBER 20, 1905

AN IDEAL COUNTRY HOME.

These trees, palms, etc., when planted many years ago, cost but a few cents each; now they add thousands of dollars to the value of the ranch and cause a corresponding appreciation of all property in the community. No planting on the farm is so surely productive of a safe and sufficient return in dollars and cents; none other adds so much of beauty, comfort and protection.

CIRCULATION EXCEEDING 10,600

You You Yours

Your Business to Consider

A ton of Shorts or Bran or Chop Feed contains not much more than 180 pounds of digestible protein; while a ton of COULSON'S EGG FOOD contains over 300 pounds of digestible protein.

Now as "protein" is one of the most valuable parts of the feed for making eggs, you can readily understand that you will get more results from one ton of COULSON'S EGG FOOD than you would from a ton and a half of either shorts, Bran or Chop Feed.

Therefore, it would actually be cheaper for you and prove more profitable for you if you should feed your pullets and laying hens COULSON'S EGG FOOD every day.

Unless a food, however rich in protein, is relished, it loses much of its value.

Therefore, we make COULSON'S EGG FOOD in a condition that fowls will relish it.

They eat it greedily—THEY JUST GO FOR IT—because it tastes good to them and they like it so.

If you should feed only grain and a mash composed only of Shorts, Middlings and Chop Feed, etc., without any extras, in the way of animal foods, your average profit on your entire flock would probably not average over 75c per hen, per year.

If you should mix Beef Scraps, Meat Meal or Meat, etc., with the other feed, the profit might be increased to $1.00 per hen per year. If you should feed the hens COULSON'S EGG FOOD every day, a food that is just right, the hens will earn you a profit averaging from $1.25 to $1.50 per hen, and sometimes more, per year.

Now, if the above is true, and it undoubtedly is, one would do BETTER BY USING COULSON'S EGG FOOD, and save a lot of worry and bother of mixing feed, etc.

(1¾) Tons of Shorts at $25.00 per ton would cost $44.00.

(1¾) Tons of Bran at $24.00 per ton would cost $42.00.

Therefore one ton of EGG FOOD is equal to $44.00 worth of shorts; it is equal to $42.00 worth of Bran, or $45.00 worth of Chop Feed or $50.00 worth of Corn; and it is better because it also keeps the fowls in more active and healthy condition.

COMMENTS:

184 EGGS PER HEN

Henry Graff, a prominent poultryman near Petaluma made a flock of 1400 hens average 184 eggs apiece during the past year.

THAT'S GOING SOME

Considering the large number of hens,—as there are always some hens that are not layers.

They were fed once every day on COULSON'S EGG FOOD.

I have fed your Egg Food for the past three months to my flock of 200 pure-bred Brown Leghorns with the best results. I believe it HELPS THE FERTILITY OF THE EGGS, as I have had a higher percentage of hatches than heretofore, and can cheerfully recommend to all poultrymen.
W. E. MERCER, Ventura, Cal.

This is the first season I have used COULSON'S EGG FOOD and I consider it excellent for the purpose. Since August last I have had MORE THAN DOUBLE THE NUMBER OF EGGS I ever had before from the same number of hens. A. A. HENRY, Rumsey.

I have fed your Egg Food and had good results.
S. M. BUTLER, (Arrowhead Strain B. P. Rocks.)

I find your Egg Food proves to be just what you recommend it to be.
E. M. SHELFORD, Cloverdale, California.

Have been using your feed since last August, 1904, and have never had such a healthy, happy lot of hens before. It carried them safely through the molt without any sickness and they are laying well at present with eggs at 35 cents a dozen. MRS. E. M. HICKS.

Full particulars of your dealer. If he does not keep COULSON'S FOODS, etc., give us his name and we will tell you where and how to get them, and save you money.

A Sack of Coulson's Egg Food

The World Renowned
COULSON'S EGG FOOD

A Balanced Ration or Mixed Feed for Pullets and Laying Hens

Intelligent Feeding.

Feed the hens Coulson's Balanced Ration Egg Food. You can buy it nearly as cheap as wheat, and it will make the hens lay better than any other food.

A hen is simply an egg-making machine. Feed her properly and she is bound to lay eggs regularly. Feed as a mash one meal a day. Simply wet it up with a little water or skim milk, and it's ready to feed: it saves you time; it's the busy man's friend. Feeding a properly balanced ration the year round will yield double the profits if you feed COULSON'S.

Take the sack of Coulson's Egg Food, dump some of it out in a box—pour some water or skim milk on it. Stir it up so as to make a dry mash, (meaning not too wet), then pour it into the feed troughs for the growing pullets and laying hens. They should be fed COULSON'S one meal every day.

The supreme test of a hen is her Egg-Making Capacity. A good hen should lay about 200 eggs per year, which she will do if fed regularly on COULSON'S EGG FOOD.

Cut out this slip. A handsome needle case free.

What poultry have you? .....

Do you use Coulson's Foods? ..... If so, what kinds and how long? .....

What results have you had? .....

When will you need a new incubator? .....

Have you had samples of Coulson's Foods? .....

Does your dealer keep them? .....

Your dealer's name? .....

And address.....

Your name .....

Address .....

(On return of this properly filled out we will mail you a valuable and handsome needle-Book. If a copy of our new 80-page Catalogue and Egg Record is desired, send us 5c postage.)

$500.00 to be given away. Look for particulars in every 100-lb. sack Coulson's Special Chick Feed.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 16 LOS ANGELES, CAL., FRIDAY, OCTOBER 20, 1905 Subscription $1 a Year

Uncle Sam's Santa Ana Plant Station

Cardens Where Interesting and Valuable Experiments Are Being Made With Wild Plants From Every Land

We are constantly reminded of the paternalism of our government in many pleasant ways. One of the more common reminders of this relationship is the great number of books, bulletins, etc., which all citizens may receive by simply sending in a request to headquarters. Few of the recipients of these publications stop to think what a vast amount of time, money and labor is behind all these reports of investigations.

Down at Santa Ana Uncle Sam has a pathological station with a fair equipment of laboratory and garden, yet the public seldom hear of it. Only when something worth publishing has been demonstrated beyond all doubt, are we reminded of its existence. Prof. Newton B. Pierce, in charge of the Santa Ana station, is one of those modest, tireless workers intent only upon getting results, with neither time nor inclination to court publicity. Because the public hears nothing of him it must not be supposed that Prof. Pierce and his assistants are asleep. This is the first extended notice the station has received for some time and it may be a year or years before something worthy of publication occurs in their work. Nevertheless, the labor of these years has not been wasted and we are destined, in the next few years to have ample cause for rejoicing that we have such a station in our midst.

Prof. Pierce is now aiming, primarily, at the improvement and utilization of our native plants and incidentally in same line of work with all wild plants. As an instance, he has collected every kind of wild grape obtainable, and every country on this earth has contributed its quota. These will be used in experiments seeking to improve, and render immune to diseases, peculiarities of climate, etc., all of those sorts we have and produce new ones yet unknown and not even anticipated. It may be that new and distinct races shall be part of the fruits of this never-ending task. In addition to this there is a bed in a cloth house containing hundreds of crosses between existing species and varieties, each little pot carefully labeled with the parent names. All these brought into being for the purposes above noted.

Grapes are only one of the many families to be experimented with; every botanical species of walnut is to be found in this wonderful garden and when these have arrived at a fruiting age we may look for some entirely new sorts of high commercial value. So too has Prof. Pierce gathered the native oranges, lemons, limes, etc., of all countries. Here may be seen the largest and most robust of the citrus family, down the scale to a minute prostrate species with leaves but one-eighth of an inch long. Some of these may never produce anything but dwarf hedge plants, yet even then such will prove a valuable addition to this class of plants. Yet doubtless the experiments with the higher class of citrus trees will yield some valuable and interesting new fruits.

The writer saw here cherries from many lands, some entirely untried and unknown to horticulture and of these one or two may prove a pleasant surprise to our fruit growers even in their present state. The possibilities with plants of this class are great. For instance, many cherries, like our local insular species, have a greater value in the meat of the pit than in the pulp surrounding the pit. Such an one may be bred (and selected) toward both extremes, so that from one species we may in time get both a nut and a cherry of commercial value.

Here, too, is a collection of all the various coffees of the world. Some are more hardy and the berry of greater commercial value than any we usually find in the market. Prof. Pierce is in close touch and constant communication with botanists everywhere and he is urging those collectors, in the countries where the hardiest coffees are found, to "chase the hardier species up the mountains," with a view to getting one much hardier than any thus far discovered. If this species should yield a berry of sufficient value, the most serious feature of the problem would have been overcome. If hardiness was its only "stock in trade" it could be crossed with the best cultivated species and perhaps be made to produce a superior berry which could be successfully and profitably cultivated in California. This is his chief aim with all plants under his charge. These are no idle experiments of scientific value alone, but is is safe to say that this station will some day give to the world more of commercial value than any work ever attempted on the Pacific Coast.

Vineyard of Improved Grapes near Stockton.

Bamboos and other plants of both decorative and economic value, such as paw-paws, yams and others of importance from the tropics abound in considerable numbers, while kindred plants from the temperate zones are close beside them. The products of these two extremes should give us plants suited to any climate in this State. Australia and South Africa both contribute heavily to this collection and in addition to the more common eucalypts and acacias of the former country, are species not heretofore introduced to this coast. While the greater part of this garden is given over to plants of economic value, those of ornamental importance alone have not been forgotten. Everything from the tallest tree to the lowliest herb is in evidence and nothing will be thrown away as useless until its lack of value has been fully demonstrated by all possible experiments, both as to culture and crossing.

Prof. Pierce is very reticent about his garden work for he is not seeking notoriety or even publicity, preferring to remain "unhonored and unsung" until he has obtained results of unquestioned value. Visitors, except of a certain class, are not desired, for neither Prof. Pierce or his assistants have time to consume in showing people over the garden and no one is allowed to roam about unattended. There are two reasons for such a policy: If the visitor is of sufficient standing in the "craft," Prof. Pierce is very pleased to show him all he has and is doing; if he is not, no time must be wasted and it has been found that the public cannot be trusted alone, even in commercial places. There are always a few who cannot resist the temptation to take cutings, fruits, seeds, etc., and that without discrimination. Some thoughtless person might, in this way, bring to naught the results of years of selection or hybridization. So the scientist in charge prefers to remain, for the present, without fame, and attention, from the dear public and whenever he shall have something worthy of our notice, the knowledge of same will come to us through the proper channels at Washington.

In view of the gigantic task undertaken by Prof. Pierce, and of its unquestioned value to all the world, it is earnestly hoped that the Department of Agriculture will grant all necessary funds for lands, labor, houses and equipment so that this grand demonstration may quickly be productive of profitable results. To properly care for all the plant lines started will require, in time, several hundred acres of land. While this amount will be needed eventually, a small increase of acreage each year will allow the work to proceed as originally intended.

Aims of the State Grange

Paper Read Before the Annual Meeting of the State Grange, Patrons of Husbandry, by John Tuohy.

The annual meeting of the State Grange, Patrons of Husbandry of California, is an event of more than passing importance to the members of our order; for that reason to the State and, for that reason, to the nation.

On the 15th of July, 1873, the State Grange, Patrons of Husbandry of California, was organized in the City of Napa, the place where it will this year hold its 34th annual session. On that occasion 35 granges held charters in this State, and 28 were fully, I might properly say, ably represented. Since that date, regular annual sessions have been held, in various cities, centers of population of the State. Now it has come around to convene again in Napa City; and no doubt rests in the minds of any one of us but that the noble work of the order, commenced here 33 years ago, will be faithfully and earnestly followed up this session. The prime object then and now aimed at was: To bring together the agricultural people of California, and to unite them into a compact organization for the promotion of their own, the State's and the nation's welfare; that in their assemblies they might consider and study their interest, always being governed therein by justice and patriotism. In this way the aims of the order were, are and will always be, general in character, leaving it to time and requirements to create, develop and meet specific conditions, which would have careful consideration and give opportunity for successful work. It is difficult to state concisely, succinctly and clearly what were all the objects for which the Order of Patrons of Husbandry was organized. It was felt, however, that the educational, industrial, social and political opportunities of the farmer were very defective as compared with other classes of society; that efforts should be made to correct these defects; and that needed the assistance of the farmer class of society. That united assistance was not only necessary, but was essential to success in the betterment of these conditions. This assistance could be best rendered through united and well organized effort; and for the purpose of making that organization both perfect and efficient, it should be subordinate, State and national.

* * *

It may be asked, has the Grange bettered the conditions of the farmer, and in what way has it done so? What good has it accomplished? These questions, pertinent as they are, are never asked by the earnest patron; he well knows that the national, State and local affairs, conditions and surroundings of the farmer have been and are being promoted. That the meetings of Patrons in Subordinate, State and National Granges has promoted our social opportunities, has educated us in the study of our needs and the proper remedies therefor, has brought us more prominently before the world, has given us, as a class, a better standing therein, has taught us our own worth, and brought us our own esteem, and better knowledge of our own power when properly exercised. These things has it done and these things will it do so long as we are true to ourselves, which means being true to the order which has accomplished them for us. As a class, whatever we accomplish must be done by organization and co-operation.

The question is, what has the order done since it came into existence in Napa in July, 1873? One thing it has taught us, that in organized co-operation we achieve our best results, in the lack of that we meet our greatest failures. That much the grange has taught and is teaching us and it is a valuable education.

The Grange, (for the names Grange and Order of Patrons of Husbandry are used synonymously) has been and is now a great school, educating us in our duties and our rights as citizens and how best to perform the one and obtain the other. In our subordinate granges, every subject of public interest, except partisan ones, is considered. This consideration is a mutual interchange of views, and specific inquiry as to the merits of the subjects considered. These considerations, being non-partisan subjects, only, are without personality, and this the more readily leads to impartial conclusions. In this way every member has an opportunity of expressing his views, or of investigating the views presented before him. In this way whether diffident or pert, each has an opportunity of training himself in expressing his own views or in considering the views of the other members. The grange has trained them, and is training them to do this, and it is a very valuable education.

* * *

Co-operation is one of the greatest needs of the farming community; lack of it has been the drawback and bane of the industy. Some progress in that line has been made, but much more has to be done yet. The grange is doing its part in promulgating the true principles of co-operation; although a great deal remains to be done, grange advocacy has done much already in that line. Home life on the farm has received much discussion and consideration in the grange. How to better its social and industrial conditions has always been a grange study; for this purpose good roads are an essential, and free rural delivery is an adjunct thereof. No one feature of the rural home adds to the attractions thereof more than does good roads. The grange, by its advocacy thereof, has been the greatest factor in promoting good roads and good road laws As a result of good roads, free rural delivery of mail has come to be an institution of our land, adding to the convenience of rural homes—making rural life more attractive Grange influence originated and established free rural delivery.

Insurance against fires is a necessity of our higher civilization. This necessity has made the farmer and all others seeking fire insurance protection the prey of unscrupulous fire insurance combinations. The grange early in its life realized this; for many years fought it, and finally succeeded in having enacted legislation providing for local, rural mutual insurance. Whilst the board rates of the stock insurance companies are higher in the country than they are in cities, and whilst they are in cities from one and a half to two per cent on amount insured, in local mutual insurance companies the rates are but one-half of one per cent, every loss is promptly paid and no failure can befall them.

Rates of insurance need not be one third of what they are, greater security should come to the insured, and the State would get a large revenue therefrom. This is proven beyond a peradventure by reference to the last report of the insurance commissioner which shows the premium charged by the stock insurance companies doing business in California to be as follows. California companies charged premium of 1.64½% on amount of risks; other States doing business in California 1.52 4-10%; foreign insurance companies a rate of 1.43%; and California mutual companies .50%. The lesson taught by this showing is unanswerable, but it is still more so in other States having local mutual insurance. Take Iowa, for instance: In this State there are 117 local mutual insurance companies in 99 counties having risks in excess of $200,000,000, the charge for insurance is one dollar for writing up the policy and one-half of one mill to two mills, never exceeding the two mills on the dollar, premium on the amount of the risk. This has always been ample to meet all losses and all expenses. California can do as well as Iowa.

In Iowa, stock insurance companies, before the organization of the local mutual insurance companies, charged 1.50% premium and stoutly denied, as stock companies in California now deny, that risks could be carried for less. Now the stock companies are rustling to get risks at 75% or one-half of what they before declared was the very lowest risks could be carried for.

This change of insurance rates in Iowa is purely the result of Grange effort. Insurance against fire is incidental to our civilization and our social conditions. It is a protection that every property holder, urban and suburban should have. It should be given at the minimum rates, and to get it at the minimum, it should be done by the State. This will eliminate all charge of irresponsibility.

Taxation is an all important subject. By reason of the consideration given to it in this State Grange, it has been brought prominently before the whole community; the legislative and the executive department of the State Government. Taxation is an incident of all governments, civilized and savage, in some shape. Owing to changing conditions of society the system at one time, fair and equitable, under changed conditions of society may become unjust and burdensome.

It cannot be justly denied that every one receiving the protection and benefit of the Government should, according to his ability, contribute to the support thereof; but this the present system of State and county revenue laws cannot exact, and herein lies its inherent defect. The State Grange of California having commenced the fight for a just and equitable system of taxation should persist until it has accomplished that end. Let ability to pay be the rule of duty to do so, and that this rule may be carried out equitably a system of direct and one of indirect taxation is necessary. There should be no double taxation, for the taxpayer, who on one class of property pays a double tax or treble the amount that the other property holders do on property of equal marketable value or a greater tax than does the man who has double or treble the income and the ability to pay, is being taxed doubly and trebly.

* * *

This is not intended as a summary of what the State Grange, P. of H. has done or is doing. It is only intended to call attention to some good work it has done and some it is now doing.

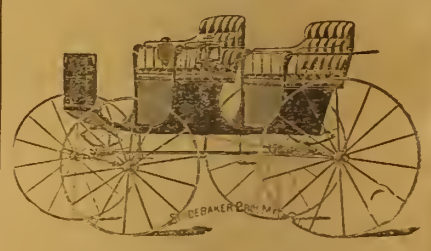
* * *

The Order of Patrons of Husbandry is an incident of our twentieth century American civilization. There may be orders that fill a more conspicuous place in the community. There is none that from pure sense of duty, patriotism and devotion to right, that fills the place or does the good work our Order does.

The Grange since its organization in California has done good work—is doing good work—will do good work in the future. Duty to themselves requires it should have a larger enrollment of farmer membership. It has earned it and deserves it well.

America is under lasting obligations to Denmark for valuable information along dairy lines. There is other information that would be valuable to us if we would only avail ourselves of it. Denmark is a country of small farms. It contains 224,000 land owners, more than half of whom do not have more than one acre of land each.

One of Many



Do you need a

Buggy, Runabout, Phaeton, Farm Wagon or Harness

We carry a complete line of the famous

STUDEBAKER
Buggies and Wagons

Our prices will

Save You Money

Reports have reached us from every quarter of Califorhia and Nevada of the great length of time the

STUDEBAKER
Vehicles

have been used. They last because they

Are Well Made
Everything the Best

We are local agents. Call and see us or write for catalogue.

Newell Mathews Co.

200-202 No. Los Angeles St.
Los Angeles, California

LIFE OF THE HONEY-BEE.

In former years some of the most incorrect views were held regarding the natural history of the honey bee. Among other things it was believed a worker bee would live to the age of two or three years. And very many people of today do not know how long a bee does live. The Italian bee has been the medium by which this and many other mysteries have been solved.

The queen is the only perfect female bee in each colony and she lays all the eggs from which develop the three different beings found in a colony of normal conditions. That is drones or males, queen or female, and the worker bees, which are females not fully developed. The worker bees are the most numerous and are the subject of our consideration. The bee egg requires three days of incubation after which time it hatches into a tiny little worm in the same manner that a chicken hatches from the egg of a domestic fowl. The worm, correctly speaking "larva," is fed by the nurse bees for five days. It then has its size, feeding ceases and it is capped over. During the next period of twelve days it gradually transforms into a perfect bee and finally emerges as such from a cell on the twenty-first day.

Should we remove a queen from any colony of black bees and replace her with an Italian it is plain that no more black bees can be hatched after the lapse of twenty-one days, and that now all the further increase will show Italian blood. If we now keep watch of this colony we will see the black bees gradually disappearing until finally, about forty-two days from the date of the last black bee hatched, they will all have disappeared. If the experiment was made during the working season (June, July and August) in our locality, the Italian bees will have taken their places. The experiment shows that the life of a worker bee during the height of the season is only six weeks, or thereabouts. Of course during the winter bees live longer, possibly they may live nine months at most.

But in making our experiment we might have learned more about the mysteries of the life of the honey bee. If we had examined our colony on the eighteenth day after all the black bees had been hatched on opening the hive and removing the honey board or the quilt covering the honey boxes, we would have seen only Italian bees in and about them, although from those working at the entrance we might have been led to believe that the colony before us was a pure black one, showing that it is the bees above seventeen or eighteen days of age that do the field work, and those below that age doing the housework.

Even up to this day some beekeepers do not seem to realize this matter as they should. Some are still of the opinion that they can assist their bees by providing their hives with a second entrance near the top of the hive, expecting the field workers when coming home with their loads of honey to take the shorter cut through the upper entrance, and thus have a shorter route to the honey boxes, enabling them to make more trips and gather more honey.

Another scheme has lately been brought out, also based on this false theory. By some contrivance the field workers are compelled, in order to travel up to the honey boxes, to do so not by way of brood chamber, but up the sides of the hives in the bee space between the side and first comb. The writer calculated that the bees by this road will reach the outside section boxes first. They will also condescend to fill and finish them first. The outside sections are quite often not filled as well as those nearer the center of the supers. But no field bees enter the sections. The field bees deposit no honey in the combs but hand it over to the young bees or house bees, which latter use it where it seems best, the former again flitting away as quickly as possible to obtain another load, etc. It is the young bees not yet eighteen days old that under normal conditions build the comb and fill the same with honey; they also feed the larvae, the drones, the queen, and do all the little jobs that need to be done in this wonderful household.

PRACTICAL PRUNING.

The following may be counted among the practical purposes to be attained by pruning in California: Convenience of the grower, health and strength of the tree, regulation of heat and light, attainment of strong bearing wood, attainment of size in fruit, promotion of regular bearing. Examine trees with reference to their embodiment of these characters and one can hardly fail to secure rays of light upon the subject of pruning which seems dark to so many.

Trees which branch near the ground are most quickly and cheaply handled in all the operations of pruning, spraying, fruit thinning and picking. Low trees with obliquely-raising branches are more easily cultivated than any form with horizontal branches, unless the head is carried so high that the animals pass easily under the tree.

It is imperative in most parts of the State that the sunshine be not allowed to touch the bark during the heat of the day. This protection is secured even for young trees by low branching and encouragement of small, low laterals. The low tree with properly spaced branches attains superior strength by virtue of thick, strongly knit, short growth between branches, and by its strong, stiff, obliquely-rising growth sustains weight, which brings horizontal branches to the ground if needed.

The maintenance of strong bearing wood in the lower part of the tree is conditioned upon the proper pruning of the top of the tree. How far the upper levels, or the shade layer of the tree can be safely opened depends upon the local climate in each fruit region. The rule must be the higher the summer heat the denser the tree; the lower the heat the thinner the tree, but everywhere the proper condition of openness must be constantly in view of pruning.

Good fruit develops on good bearing wood and good bearing wood is the product of proper degrees of light and heat, as has just been urged. But bearing wood in the case of some fruits is new wood and reduction of old wood for the purpose of forcing the growth of new wood, must be constantly in mind.

The size of fruit, providing the tree is healthy and vigorous, depends upon the character and amount of bearing wood which the tree is allowed to carry. Removal of part of the fruit burden is done by thinning after it is well set, but this labor should always be minimized by antecedent pruning, which adjusts the retention of bearing wood according to the vigor, size and bearing habit of the tree. Thinning out of bearing shoots and spurs, when either are clearly seen to be in excess, should be the constant study of the pruner.

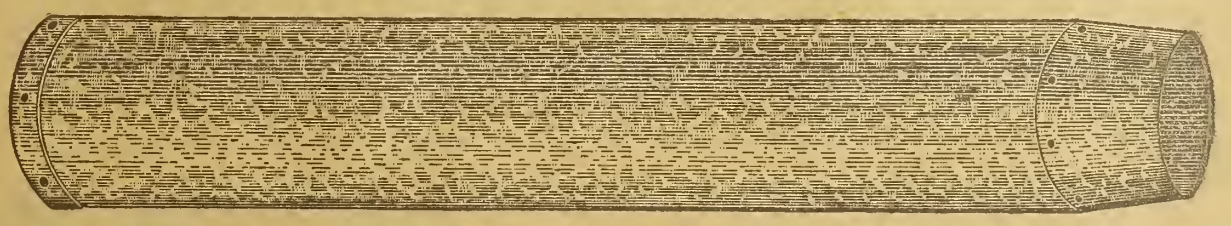
Regulating the amount of fruit borne in one year involves the profit of two years, because a tree cannot produce an excessive amount of fruit and perfect good fruit buds for the following year. It may generally make buds which will bloom, but not always that. If it does make the bloom, it is no guaranty that the bloom will be strong and effective for bearing. Consequently, pruning for reasonable amount of bearing should always be borne in mind and should be practiced at the close of a year of non-bearing with particular diligence, if the alternate year bearing habit is to be broken up.

It is only a little more than half a century since the honey bee was introduced on the Pacific Coast. The earlier bees in this country were the common brown or black German bee; but in 1860, the U. S. Department of Agriculture introduced the Italian bee, 20 years later, the Cyprian, and later, the Carniolan; there are others but these proved the most popular.

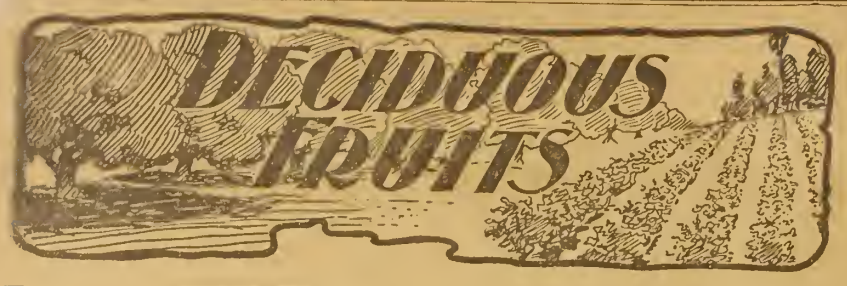
Best Prune Dip **GREENBANK** Powdered Caustic Soda and Pure Potash
T. W. JACKSON CO., 125 California Street SAN FRANCISCO

GASOLINE ENGINES, WINDMILLS,
IRRIGATION MACHINERY,
FAIRBANKS' STANDARD SCALES,
STEAM PUMPS, DYNAMOS,
MOTORS, PIPE, CASINGS,
FITTINGS, BELTING, Etc.
MANUFACTURED AND FOR SALE BY
Fairbanks, Morse & Co., 136 and 138 So. Los Angeles St. LOS ANGELES, CALIFORNIA

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING
PAPER
MANUFACTURED BY
PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE
Tallerday Manufacturing Co.
PHONE, ALHAMBRA 301 DOLGEVILLE, CAL. The Manufacturing Suburb of Los Angeles
MINNEWAWA HOME PACKING CO., FRESNO, CAL., AGENTS FOR FRESNO AND TULARE COUNTIES
When writing advertisers mention Cultivator.



THE CATALINA CHERRY.

A Santa Barbara paper says: "There are not many people here who are aware of the fact that delicious wild cherries are a native growth on the Channel Islands. The fruit is ripe at this time, and yesterday a large quantity was brought across the water by the captain of the launch Irene.

The fruit is large and black and grows in clusters like fine appearing grapes. The amount of edible substance, however, is very small, as in each of the cherries there is a large seed, larger than those combined in a loquat, the layer of meat being thinner than that of a loquat. The flavor however, is very pleasant, and those who know of this island fruit seem to like it immensely. The cherries grow on trees attaining a large size."

This cherry is the one so often recommended in these columns for street and yard planting. It is one of the most beautiful small native trees to be found on the coast. It may be that it would also prove valuable as a stock upon which to bud, or if crossed with one of commercial value produce an edible fruit. As it is now, it has an exceedingly thin yet sweet pulp, and as far as its value as fruit is concerned, nearly the same amount of nutriment might be gained by sucking a china nest-egg.

THE APPLE IN AMERICA.

The first apple trees planted in America were imported by the Dutch settlement at New York in 1614. Apple trees were also known to have been growing at Jamestown, Va., as early as 1622. Until within the last half century apples were grown almost solely for cider making, as is the case today in France. As hard cider will produce drunkenness, William Penn advised his Quaker colonists in Pennsylvania to cultivate indigeneous fruits alone, as apples were then used almost exclusively for making cider or applejack.

Many of the early orchards of the pioneers of the middle west were seedlings obtained in a peculiar way. Some man whose name has been forgotten, and who is remembered only by the appellation of "Appleseed Johnny," traveled through the west and scattered among the settlers untold quantities of apple seeds. He gave them away free of charge, and he was given a hearty welcome at every cabin door.

The last decade or two has shown wonderful development of the large commercial apple orchards, and the industry has now assumed vast proportions. Apples, for instance, are exported to England and many foreign countries. Apple cores from the big drying establishments are purchased by eastern buyers and shipped to France to be used in the adulteration of wines and champagne. A large part of this champagne and wine is shipped back to America.

The Imperial Press is working with an idea of gaining a horticultural experiment station for that town.

LIME, SULPHUR AND SALT WASH.

For winter use upon deciduous trees for pernicious scale, curl leaf, peach moth, etc., the following formula is properly prepared and used will prove an effective solution:

Unslacked lime, 40 pounds.
Sulphur, 20 pounds.
Stock salt, 15 pounds.
Water to make 60 pounds.

Directions.—Place 10 pounds of lime and 20 pounds of sulphur in a boiler with 20 gallons of water, and boil over a brisk fire for not less than one and a half hours, or until the sulphur is thoroughly dissolved. When this takes place, the mixture will be of an amber color. Next place in a cask 30 pounds of unslacked lime, pouring over it enough hot water to thoroughly slack it; and while it is boiling add the 15 pounds of salt. When this is dissolved add the lime and sulphur in the boiler, and cook for half an hour longer, when the necessary hot water to make the 60 gallons should be added.

Follow the above directions carefully, particularly the boiling, if you desire success. Use this remedy as late in the season as possible. The best results will be obtained by spraying just before the peach trees burst into full bloom. On cloudy, moist day blossoms will not be injured by this wash, but in dry weather with north wind blooms will be damaged.

MANURING STRAWBERRY.

Editor Cultivator: How would the following plan work for strawberries on comparatively level land? Make shallow basins, say enough to flood the ground, land to be, smooth no ridges. First cover with 2 or 3 inches good stable manure and then with 4 or 5 inches of straw, after which set the plants through the mulching and remove by hand any weeds which may come up. Seems to me the ground gets too hot in the summer for strawberries unless irrigated all the time.—H. W. C., Escondido, Cal.

To the above question W. M. Gray, of Gardena, the successful strawberry grower, makes answer. (Editor.)

Judging from the teaching of my own experience, the growing of strawberries under the above described conditions will not make a success. Take virgin soil which has never been irrigated and will produce good barley and wheat crops and you will have a soil, if thoroughly irrigated and cultivated to make a perfect strawberry.

Covering the ground with straw is of no benefit except to retain moisture and a good mulch of fine soil made so by shallow culture is what I should advise.

There are a number of reasons for not using the stable manure and straw culture.

The climate at Escondido is not too hot for most varieties to do well. The Lady Thompson may not do so well there as at the coast where it makes a fine berry.—W. M. Gray, Gardena.

Dinuba will have a farmers' institute on November 1 and 2, at which Prof. Bioletti will give talks of special interest to the vineyardists of that section.

"U. S. Department of Agriculture, Climate and Crop Bulletin for the Weather Bureau, California Section, for the week ending Monday, October 16th."

Dry and generally clear weather prevailed during the week. In the interior of the State conditions were favorable for raisin making and friut drying. Good progress has been made in both directions and the second crop of raisins is nearly out of danger. In the southern part of the State and also in the northern orange belt conditions have been ideal for developing citrus friuts. These are all in excellent condition and there is a promise of very large crops of first class fruits.

Large shipments of table grapes continue, and the apple, late pear and quince crops are coming in nicely. The apple yield is generally heavy and of good quality. The season has been a good one for beans and a very large crop has resulted, most of the crop being already harvested. The walnut crop is about two weeks late but will be one of good quality and fair yield. The yield of honey is larger than that of last season. Olives are in fine condition.

Plowing and seeding are progressing in the northern part of the State. The absence of rain is causing some anxiety among stockmen. There is however a large supply of hay on hand.

Eureka Summary.—The weather the past week was generally favorable. Grass is making slow growth. More rain is needed. Apples and pears are being marketed in large quantities. Fall plowing is progressing.

Los Angeles Summary.—Farm work is generally at a standstill awaiting rain. Thrashing is about finished. Bean thrashing continues; will be finished in about two weeks unless rain comes; the yield is generally heavy and the quality good.

KADOTA FIG.

Mr. S. H. Taft of the Semi Tropic Nursery of Sawtelle hands us a sample of the Kadota fig which he has been producing for a few years and we find it of excellent sweetness with most tender skin and would be a most desirable fig to eat from the hand.

His ad. appears in this issue and will be interesting to those who wish a desirable fig for family use.

A grower at Brawley has a sweet potato field which has averaged over 25 pounds to the hill, or over 30 tons to the acre and he has sold them for two cents per pound. Evidently Brawley is "in it" for sweet potato growing.

California Concord Grapes and Kadota Figs
The undersigned makes a specialty of propogating the new variety of table grape known as the California Concord, and has 2000 vines for sale. Also the Kadota Fig Tree, which while resembling the White Pacific, is larger and sweeter, and the tree much excels the White Pacific in vigor of growth and productiveness. I have also my usual supply of soft shelled English walnut trees raised from selected nuts. S. H. Taft, Semi-Tropic Nursery, Sawtelle, Cal.

BLUE GUMS
Cypress, Budded Loquats, Citrus stock and Shrubbery for sale in any quantity.
Geo. B. Warner, Santa Ana, Cal.

Berry Plants and Grafted Walnuts
Grafted Walnuts on both the Native Black and English Walnut Roots. Also Santa Barbara Softshell Seedlings. Crandall Blackberry, Brandywine Strawberry and Loganberry Plants. Prices on application.
Toluca Nursery, G. Tosetti, Prop., Toluca, Cal.

THE VERNON NURSERY
4524 Central Avenue, Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL, Prop.

MAIERS WALNUT HULLER
One man can do the work of twenty. Can be moved in the orchard and worked without water and run by hand or power. Circulars free.
G. F. Maiers, Goleta, Cal.

"GO TO GARDENA"
For location, abundance of irrigating water, a rich soil, free from alkali, producing good crops of alfalfa, berries and vegetables; the dairy and poultry section of Los Angeles county. Buy acreage with water, the safest investment.
FOR SALE
$3500—5 acres, 4 in berries, balance in chicken corrals, house, barn, fruit trees, lawn and flowers, cheap irrigating water. Income over $2000 this year.
$2300—5 acres, poultry ranch; house, barn and corrals, alfalfa, fruit trees, 6 h. p. pumping plant, water piped to buildings, horse, 2 cows, farm tools, etc., ¾ mile from car line. Be sure to see this before you buy.
$1500—4 acres in fine alfalfa, new 5-room cottage cheap irrigating water, good sandy loam soil.
A number of large tracts for subdivision.
W. M. Gray, Gardena, Cal.

Grape Vines
Wine, Raisin and Table Grapes on their own roots and grafted on Phylloxera Resistant Roots.
Write for our prices on everything in the nursery line. We can refer you to satisfied customers in every locality.
Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c postage.
Fancher Creek Nurseries, Inc.
Paid up Capital $200,000
Geo. C. Roeding, Pres. & Gen'l Mgr.
FRESNO, CALIFORNIA
Growers of Trees and Vines of All Sorts

CHICO NURSERY CO.
Our Specialties:
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS
Complete Line of
FRUIT TREES
and
ORNAMENTALS
Agents Wanted
Third and Walnut, CHICO, CAL.

CITRUS FRUITS

By C. A. Day, Pasadena

ORANGE ORCHARDS OUT OF CONDITION AND NON-PRODUCTIVE.

Such orchards are frequently met with in the citrus districts of California. This condition is that which is sometimes termed die-back, the result of underlying hardpan or impervious clay, or excessive wetness or dryness of the sub-strata surrounding the deeper roots; or the rise of water from below or in cases of over irrigation. Where it is a case of permanent hardpan underlying the surface, it is usually considered a hopeless case; the orchard should not have been planted upon such soil. In one case which has come to our notice, a ten-acre orchard of orange trees was set out twelve or thirteen years ago on a tract of high sloping land underlaid with a hardpan strata, it being necessary to blast out the holes in which to set the trees. The orchard has not been plowed for a number of years, but has been constantly and thoroughly cultivated and fertilized every year, and the surface by frequent irrigations kept in a condition that has resulted in the production of good crops of fruit every year, and the fruit produced has been of excellent quality. The roots are of course near the surface, but the surface soil in which the root system is located is kept well fertilized and irrigated and never allowed to dry out. In this case the subsoil is hard and dry. When the trouble is due to poor drainage or over irrigation the remedy is to give better drainage and cut down the supply of water and give deep, thorough tillage. We have other cases where orange orchards have borne well for a number of years and then followed light yields of fruit, but little growth of new wood, and the trees became full of dead wood; the balance had scanty foliage.

Sometimes this condition is due to improper culture, starvation through the exhaustion of the natural plant food in the soil, and the failure to fertilize. In other cases it is the result of old age; trees that require special treatment to renew the root system and the fruit-bearing wood.

Along the line of non-production we have the following letter from C. S. J., of Orange county, addressed to the writer, which I take the liberty to answer through this department.

"The trees were set out twenty-three years ago last spring. They were Australian navels. Nine years ago I had them budded to Washington navels. They bore well for five years, since which they have been shy bearers. The soil is sandy alluvial and was covered with cactus. I have fertilized freely with cow manure but without results. I have sown Prussian blue peas which are now coming up. I am thinking of fertilizing with ground green bone and blood. I have used ———— commercial fertilizer and I pronounce it a fraud.

What do you think of my idea and when would you recommend the application of the fertilizer, and how many pounds to the tree? I have an abundance of water."

Our friend writes that the free application of cow manure and a certain brand of commercial fertilizer have been without effect and pronounces the commercial fertilizer used, a fraud. Why not say that the cow manure was a fraud as well as the commercial fertilizer? Both failed to produce the desired effect. It is my opinion, from the statement, and without knowing the full particulars of the culture given, that there is something else at fault than the fertilization.

He suggests the application of ground green bone, a nitrogenous fertilizer, and has some in the orchard peas, which if inoculated with the nitrogen bacteria, will give a good supply of nitrogen for the growth of new wood. From this I am led to believe that the trees have failed to grow annually a good supply of new wood and perhaps are today scant in foliage. If so he is on the right track as to fertilizing.

It would have been better, in my opinion, to have applied an available nitrogen fertilizer before, or at the time of sowing the peas, in order to stimulate a strong growth of peas, which would give nitrogen for the growth of new wood.

In this case he would not need a later application of nitrogen or humus as the peas would furnish both. From the age of the trees, 23 years, and from the fact that free application of cow manure and commercial fertilizer has been without effect, I am inclined to believe that the old root system of the trees, enfeebled by age, require a severe root pruning. Plow deeply and cut the fibrous roots; then by the application of nitrogen fertilizers (the peas should give this) force a renewal of the fibrous root system of the trees.

In the case of old citrus trees, or in fact all fruit bearing trees, the old, enfeebled wood past the age of bearing should be gradually removed and replaced by a growth of new wood that will become fruit bearing. The same conditions exist underground with the root system. Pruning the roots by deep plowing will induce a growth of fresh young vigorous roots that will push out in every direction in search of plant food and will renew the vigor of the whole tree.

A severe root pruning of the orange will likely be followed by a light crop of fruit and the whole force and vitality of the tree will be employed in growing a plentiful supply of new wood that will later become fruit-bearing wood.

It is necessary to adopt a method of culture, fertilization, irrigation and pruning that will annually produce new wood, in order to continue to produce regular and full crops of fruit. Whenever an orange tree ceases to grow new wood and the tree becomes full of dead wood and with scanty foliage, it is a sure indication of a light crop of fruit for the year to come

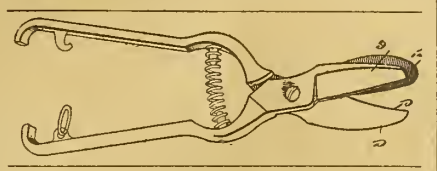
* * *

More About the Gum Disease.—The other day a citrus fruit grower reported to the writer the development of the gum disease where the irrigation had been in basins about the trees. Where it is absolutely necessary to make the basins around the trees a mound of dry earth should be banked about the trees, keeping the water from coming in contact with the trunk of the tree. It is far better to make the basins for irrigation between the trees as there is less risk of the development of the disease; it will also avoid the formation of a mass of fibrous roots directly about the tree and will put the water where it will best reach the feeding roots. One orange orchard at Duarte has been reported as destroyed by gum disease, and the orchard was irrigated by basins directly about the trees. It is decidedly the safest way to keep the water away from the trunk or base of the tree.

LESS CLIPPER FRUIT CUT.

Recently speaking of the Steffa orange clipper, which will prove a saver of bruises and cuts which have caused much California fruit to decay in transit, we give in this column an illustration of this simple little tool, from which may be gathered a better idea of its simplicity and capacity for effective work.

Just a word of description may make the illustration a little more plain. The lighter blade marked c c, also its

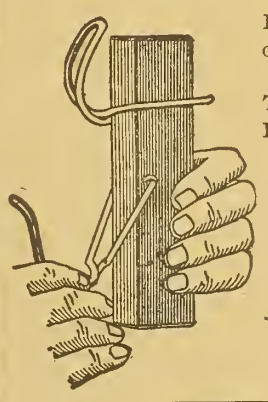


mate, the heavier shaded blade marked c, are fastened to the lower handle, in other words are stationary in their relation to each other and, also, with a V shaped opening. the other blade cuts across and shears past the edge of the blade marked c, making a clean cut and short stem. Now then, the point with the extra V shaped blade with points rounded and much longer than the cutting blade, prevents any possibility of clipping the fruit; in fact it is not possible in any way to bring the cutting point in contact with the skin of the fruit so as to clip the skin in the slightest, thus preventing the clumsiest worker from injuring the fruit.

It will be seen from the illustration that the tool is very light, can be cheaply manufactured and has no complicated parts which will in any way prevent the ordinary worker from accomplishing the best results, and a letter to Mr. E. P. Steffa at Pomona will bring additional information regarding this tool.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

Woodward's Patent Adjustable Prop Bracket



Does not get out of order.
The Best Bracket Made.
$17.00 Per Thousand
Manufactured by
J. K. Woodward & Co.
Riverside, Cal.

Peas 500,000 Pounds Two Hundred and Fifty Tons Peas
Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.
Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

DRIED GROUND TANKAGE
THE BEST AND MOST ECONOMICAL FERTILIZER
ANALYSIS { 10½ per cent Ammonia / 18 per cent Bone Phosphate
WRITE US FOR PRICES AND PARTICULARS
Western Meat Company - - San Francisco

Hoegee's Guns

Wise Birds Know Em!

Our Bran New Gun Catalogue
Will tell you how to take advantage of this sad fact. We would be pleased to send you one if you would like to have it. Address a card to Dept. "A," directing it as below and the "cat" will come to you.

CANVAS IRRIGATING HOSE
1¾, 2½, 4, 9, 11, 13 Inch { COSTS LITTLE / LASTS LONG
KHAKI SUITS Faultless Fit To Order $4.50
Send for Self-Measuring Blank
The Wm. H. Hoegee Company, Inc.
Phones—Exchange 87 138-142 S. Main St, Los Angeles

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

TREES FOR COUNTRY HIGHWAYS.

It is generally conceded that nothing will give better evidence of refinement, of welfare, in any community, than having its roads neatly kept, oiled, and lined with trees affording protection during the hottest days, and pleasant rest to the eye with their greenery all the year round. On this particular point we must confess that we are far from being to the front in rural California. Can this be justified enough by the fact that we do not need trees in the free air of the country streets as much as in cities?

The greatest fault to be found, even in planted districts, is the fact that every one plants for himself, without regard to the needs of the proposition or the wishes of neighbors or public. On whatever street you go you are sure to find a portion planted with costly palms, perhaps with a neat lawn border, then a stretch bare of trees but teeming with weeds; on the other side the disfigured remnants of some old pepper trees; or if anything has been planted, the most extraordinary promiscuousness of plants wondering at each other how they could have been put in line together; not to say anything of the treatment (or lack of treatment) most of them receive after having been set out. If one were to attempt statistics of the different sorts of plants to be seen on our highways and streets figures would run into the hundreds, while the number of trees recommendable for street planting is very limited indeed.

Coming to the practical selection of trees, several questions will arise. First: must we give preference to evergreen or to deciduous trees? Nature itself will give the best reply: In our climate the great majority of native vegetation is evergreen; but we have a few deciduous trees; and we would suggest that the largest number of roads be planted with evergreen and a very few of them with deciduous trees. Rainy days are too unfrequent with us to make evergreens objectionable. In regard to deciduous trees the most desirable will certainly be those that will lose their leaves in a comparatively short period, the same requirement applying to evergreen trees which shed their old leaves at different seasons of the year.

Other requisites to make a good roadside tree will be for it to stand the force of the wind, so as not to be easily uprooted, nor its limbs broken; to grow naturally compact and not to require too much artificial trimming; to possess a rather slender trunk so not to take too much of the sidewalk; to be fairly free from scale and attacks of other parasites that would deface its appearance, and last, not least, to stand well long periods of drought, and to have such texture of leaf as will not accumulate and retain too much dust.

Good humor and generosity carry the day with popular heart all the world over.—Alexander Smith.

FLOWERS ALL THE YEAR.

"God Almighty first planted a garden; and, indeed, it is the purest of human pleasures, it is the greatest refreshment to the spirits of man, without which buildings and palaces are but gross handiwork; and a man shall ever see that when ages grow to civility and elegancy, men come to build stately, sooner than to garden finely, as if gardening were the greater perfection. I do hold it, in the royal order of gardens there ought to be gardens for all the months in the year in which, generally, things of beauty may be then in season."—Francis Bacon.

In California there is no reason why we may not have flowers in bloom during every month in the year. It costs but little to get started right, and it is just as easy, just as cheap, to do the work in the country as it is in the city. In fact, it is much easier, much more convenient, to garden in the country. Do not be deterred by fear of cost of material or possible labor involved in the proper care. In our query department this week will be found a list of herbaceous perennials that require but little care and from this list might easily be obtained, through experimentation, a small number of the best which would keep up a succession of flowers throughout the year. Try it; touch up the dull colors of the farm yard, the dark sombre green of trees with a few dashes of bright color; in fact, have more flowers everywhere.

BACK TO THE COUNTRY.

It affords the nature lover much satisfaction to note a healthy yearning among our city folk for country life or for country conditions in the city. Relief from the nervous strain of artificial city life is afforded in no way so agreeably and conveniently as by a ramble amid the natural scenery of the foothills and canyons, and by the leisurely contemplation of the landscape. There are many workers in a city who suffer more or less from nervous strain, though often they are not fully aware of it. Where a large public park, with ample provisions of natural scenery, has been created, it has never failed to be much frequented for this purpose and to afford untold benefit to those who use it.

If the country is made sufficiently attractive with oiled roads, lined with trees and flanked by attractive front yards, we need have no fear for results. Such districts will soon prove irresistable that city people build suburban home and later the trolley car completes the transformation. It pays to beautify the country as well as it does the city.

Not only are the quiet and seclusion of the country necessary in a large park, affording opportunities for occasional relief from the nervous strain of city life, but they are necessary to the enjoyment of the landscape of the park, or the people will visit the country. Therefore, not only should conspicuous artificial objects unnecessary for the convenient use of the park be excluded from its natural parts, but noisy and dangerous occupations and amusements should also be kept out of, at least, the middle portions of a large park.

We are, unfortunately, too much inclined to spend a holiday in seeking some more or less exciting pleasure. A quiet drive or stroll in the country, with perhaps a family picnic under the trees, would be far more restful and therefore more rational than to rush off to some sea-side resort, with its various artificial attractions. Let us assist nature to reclothe herself by covering the bare spots made by man with ax and fire. Let us align the man-made streets with suitable shade trees, and we will have done much toward encouraging the already healthful, growing move "back to the country."

GROWTH OF TREE PLANTING.

A subject ever old and yet always new, one which more and more each year draws the attention of men and women and children, not only in our cities where their value is untold, but also in our country places we are beginning to realize the wonderful value of trees, tree planting, tree growth and tree preservation.

It is a strange fatality of our Western civilization that we first destroy what nature has so abundantly given us, then after we have wasted our forests in riotous destruction, we begin to repent like the prodigial son, and lament the grand old trees of such marvelous beauty, such wonderful proportions which we have so wantonly cut down. The young forest, sprouts from old stumps, wild shrubs, plants, flowers and weeds as well, become the things sought after. It is true of tree life as with other matters pertaining to our existence, we know not what we lose until it is lost.

The more advanced civilization becomes, and the more we understand what the loss of trees means, the more we lament their destruction and the more anxious we are to replace them. These-tree planting societies all over the land, these studies of nature now being instituted in all our schools are grand stepping stones to practical tree planting. What to plant, how to plant, when to plant and where and how to properly handle, are all subjects that cannot too often be told to the people, for it is truly deplorable how little is known about these matters by many of our people. One point however, all are learning and that is the immense value of any and all trees planted in California, either for ornament, shade, timber or fuel.

CHARMS OF THE COUNTRY.

As civilization advances the influence of natural beauty as an educating, refining and soothing force is more universally recognized. The city dweller, alert with business cares and occupations, or wearied with the continual noise and ceaseless clash of action, finds infinite rest and refreshment of mind in going out into the quiet byways of nature, where he can behold beautiful scenery and look out upon broad and pleasant landscapes. He finds in this natural beauty a sense of mental delight, and a soothing influence which affords temporary relief from the worries of the fevered life of the city dweller.

Quiet pastoral landscapes dispel the unrest born of too constant contact with care, and there is nothing that will so quickly dissipate the feeling of fatigue and discontent that is so apt to seize upon men when weary, as a few hours with Nature, where we are surrounded by the dignity and beauty that abounds in a grand park. It is better than medicine. It is the very restfulness of rest.

TULIPS AND DAFFODILS.

The U. S. Department of Agriculture has shipped Carl Purdy of Ukiah, 12,000 daffodil and tulip bulbs which Mr. Purdy will plant and cultivate at the request and for the benefit of the Department.

The object of the experiment is to determine whether these bulbs can be grown here successfully from a commercial standpoint.

Last year Mr. Purdy grew the best tulips in the United States and his plants were as good as those brought from Holland, which country has heretofore had a monopoly of the bulb business.

THE MONTEREY CYPRESS.

Cypressus macrocarpa is known to most people only as a hedge plant and a tax upon their time and resources to keep within its allotted meets and bounds. In this form much familiarity may have bred some contempt; a state of mind that the few isolated specimen plants are certainly not responsible for. Where ample room is accorded this cypress it makes a tree of magnificent proportions.

SEEDS
PLANTS
AND EVERYTHING
FOR THE GARDEN
THEODORE PAYNE
416 W. 7TH ST., LOS ANGELES

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm
Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.
Send for samples.
PRICES
12 inch long, $ 9.00 per 1000
14 inch long, 10.00 per 1000
16 inch long, 11.50 per 1000
18 inch long 12.50 per 1000
24 inch long 15.00 per 1000
30 inch long 17.50 per 1000
Agents Wanted Everywhere
YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.

In the Vegetable Garden

SPRAYING FOR POTATO BLIGHT.

A New York experimental station bulletin gives the details of 58 experiments in different parts of the State, in which increased yields of potatoes due to spraying are reported. At Geneva 5 sprayings increased the yield by 233 bushels per acre, while 3 sprayings gave an increase of 191 bushels. At Riverhead the gain due to 6 sprayings was 96 1-3 bushels and to 3 sprayings 56 1-2 bushels per acre. At this place the flea beetle was the principal enemy.

In experiments carried on by farmers in different parts of the State, gains of 62 1-4 bushels per acre are reported in one series including 180 acres. This gain was made at an average cost of $4.98 per acre, and the net profit, based on the marketprice of potatoes at digging time, was $24.86 per acre. In another series of experiments carried on with 41 farmers throughout the State, including 363 3-4 acres the average gain due to spraying was 58 1-2 bushels per acre, the net profit received being $22.01 per acre.

Different fungicides were tested in these experiments, soluble Bordeaux mixture and soda Bordeaux being compared with Bordeaux mixture made with lime after the usual formula. The results obtained were in favor of the use of the lime Bordeaux, as previously described. It is believed that the efficiency of the soluble Bordeaux mixture may have been reduced by the use of too dilute a solution.

The authors state that the practice of spraying potatoes for the control of blight is on the increase in New York, and many growers are preparing to spray who have hitherto disregarded this precaution. For 1905 the regular experiments will be continued at Geneva and Riverhead, and efforts made to extend the work through volunteer cooperative investigations.

GINGER

The cultivation of ginger has been tried in our hot interior valleys and resulted in failure. The reason seemed to be due to the dry, hot atmosphere. It was grown where it received an abundance of water, but the tops persisted in dying back, having the appearance of having been scalded .The fact that the best ginger of commerce comes from the West Indies would indicate that it requires the sort of climate that prevails in those islands. The West Indies became famous for their ginger early in the sixteenth century, and they and the neighboring islands still hold the reputation for perfection in that crop. It may be successfully grown along the coast and thrives fairly well in Los Angeles but it is too cold for its profitable growth on a commercial scale.

TOMATO ORCHARDS.

To raise a tomato orchard set a stake by the plant and only let the main stem grow. As other stems appear in the form of shoots from the main stem pinch them off as fast as they come. The vine as it grows is tied to the stake with common cotton strings. Three or four tyings will carry it to the top of the stake, four feet from the ground. Then the bud is pinched out. This gives a plant with twelve or fourteen large leaves four times the size of the ordinary tomato leaf and five or six large clusters of magnificent perfect fruit. In the bearing season the patch looks like a diminutive orchard loaded with fruit. Some growers like to have two stalks to the stake. In case this is done be sure to leave the vine below the first blossom as the fruit bearing vine, as it is much more prolific than any other vine that starts on the plant.—Progressive Farmer.

EGG PLANTS.

In all frostless or nearly frostless localities we should have egg plants in fruit all winter. Until recent years this valuable and now popular fruit was little appreciated but at present the demand is not only great but growing. The crops obtained are sometimes enormous, the plant being thickly covered with fruits ranging from three to five pounds in weight. The plant will endure great heat or drought, but not both at once. It does not like wet feet, but in other respects is of easy growth, not being very particular as to soils.

ROSELLE.

Roselle fruit pods for making jelly can be picked either ripe or while the pods are still green. It is more convenient to gather the pods while green for making jelly, as the seeds are then still full of the gelatinous material which enters into the jelly and are as good as the red pod. There is always color enough in the outside pods to give the red hue to the jelly.

PLANTING POTATOES.

When the tubers are planted one foot apart in the rows and the rows three feet apart, and whole tubers that weigh four to the pound are used, it requires 3600 pounds of seed; half tubers, half that amount and quarter tubers one-fourth that weight. The usual weight of seed pieces is about one and a half ounce. When potatoes are quartered lengthwise they give the best results. Large potatoes have fewer eyes than small ones in proportion to their weight ,and this makes a difference in the amount of seed required per acre. It will vary from 900 to 1800 pounds per acre.

VEGETABLES AS MEDICINE.

Watercress is an excellent blood purifier.

Lettuce has a soothing effect on the nerves, and is excellent for sufferers from insomnia.

Tomatoes are good for a torpid liver, but should be avoided by gouty people.

Celery is a nerve tonic; onions also are a tonic for the nerves.

Spinach has great aperient qualities and is far better than medicine for sufferers from constipation.

Beet root is fattening, and good for people who want to put on flesh. So are potatoes.

Parsnips possess the same virtues as sarsaparilla.

Cranberries are astringent, and correct the liver when it is suffering from inaction caused by overeating.

Dates are exceedingly nourishing, and also prevent constipation.

Apples, carrots and Brazil nuts are excellent for sufferers from constipation.

Asparagus stimulates the kidneys.

Bananas are beneficial to sufferers from chest complaints.

Celery contains sulphur and helps to ward off rheumatism.

The juice of grapes is laxative, but the skin and seeds are likely to cause constipation.

Honey is a good substitute for cod liver oil.

The juice of a lemon is excellent as a gargle for sore throat, but should not be swallowed.

Carrots are good for those having a tendency to gout.

DON'T LEAVE THE OLD FARM.

Pathetic, beyond description, is the message left behind him by a young man in Indiana, who committed suicide last month. "Don't leave the old farm," was the dying admonition of one who had left his happy farm home for the pleasures and other allurements of city life. At the old home his life had seemed dull and without interest. The daily humdrum of details had bred dissatisfaction into his surroundings. On his occasional visits to the city he had seen the troops of well dressed, fine looking fellows of his own age who appeared to take life easy, without the expenditure of effort. The elaborately dressed young women on the streets seemed prettier than the girls at home. The music halls, the theaters, the brilliantly lighted streets and the moving throng of people attracted and made his farm surroundings seem tame and repulsive. The dangers lurking behind all the glitter, the poisons that tainted all the joys of strenuous town life he failed to see, or possibly seeing may have thought himself able to withstand. It was the same old story of a weak boy, strong in his own conceit, drawn into the whirlpool of a false and frivolous life. The same old details of fast living, leading to recklessness of the extremest kind, until finally, death by his own hand. This true story carries its own moral, but fortunately for us his dying act was one to commend him to our warmest sympathies. His last moments were spent in penning the admonition above for our warning, "Don't leave the old farm."—The American Farmer.

Strawberry Plants

300,000 Excelsior and Brandywine, from plants of R. M. Kellogg Co. last spring. Address F. S. Lee, Pasadena, Cal. Phone Main 922

LAXTON'S NOBLE STRAWBERRY PLANTS

400,000 First-Class Plants. Prices on application

THE HOUSTON BERRY FARM

235 Colton Avenue - - Riverside, California

BURBANK'S.

Crimson Winter Rhubarb

OUR SPECIALTY

$1.50 per dozen, $7.50 per 100, $50 per 1000

WAGNER'S NURSERY

PHONES { Home, 1291 / Sunset, Black 1297

Pasadena, Cal.

LIKE HONEY DEW is the HIMALAYA BERRY

Coreless and rich, they literally melt in your mouth—You can have them in your garden at almost no cost

It's black, but not a blackberry. It's a new arrival, from the north slope of the Himalaya mountains. For many centuries the natives of mysterious Tibet have been making wine and cordial of them, and only the recent invasion by British troops of the "Roof of the World," as this quaint land is called, has brought this delightsome, luscious fruit to our civilization.

Enormous clusters of large-sized berries ripen all summer on this bush, making the Himalaya the most productive of any variety known. The flavor is sweet and of unusual richness. They have no core, and when ripe they literally melt in your mouth.

JELLS EASILY

For pies and jellies the Himalaya berry is a perfect success, being ahead of any similar fruit. It jells easily, and either fresh or cooked is good for the sick, being an excellent regulator and having tonic and medicinal properties of unusual virtue.

The severity of their native climate has made the berries hardy, and both the plant and the fruit will stand extremes of heat and cold better than will our domestic fruits.

WILL BE THE FAD

It will be hard for you to realize what a treat is a dish of these new berries. They will be all the fad after they get to be better known and enough are grown in the United States to supply the demand.

Now is the time to plant, and you will have a crop of berries next season. Three bushes will produce all the berries a family can eat.

We have a limited supply of pot-grown roots—hardy plants with lots of fibrous roots—not suckers, but well-grown, well-developed specimens. If you want to be the first in your neighborhood to have Himalaya berries, order now.

PRICE (Prepaid)—Per root, 50c; three for $1.00; per doz., $3.00.

Order now—the supply is limited. Use this coupon:

FILL OUT AND MAIL TO

CHAS. H. LILLY CO.

SEATTLE, WASH.

Enclosed is $.....(in money order, draft, 2c stamps) for which send me (prepaid).....HIMALAYA BERRY ROOTS.

Please send me (free postpaid) your Plant and Seed Catalog.

Name .....

Address .....

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Oct. 20, 1905

CONTENTS.

	Page.
U. S. Plant Station at Santa Ana	363
Aims of the State Grange	364
Life of the Honey Bee	365
Practical Pruning	365
The Catalina Cherry	366
Lime, Sulphur and Salt Wash	366
Manuring Strawberries	366
Orange Orchards Non-productive	367
Trees For Country Roads	368
Flowers All the Year	368
Spraying for Potato Blight	369
Planting Potatoes	369
Editorial	370
Coast News Notes	371
Craving of Hogs	372
The Dairy Steer	372
To Fatten Steers Quickly	373
Curing Alfalfa Hay	373
The Silo	374
Hog Cholera	374
Alfalfa For Cows	374
A Side Show at Portland	375
Boiled Potatoes for Chicks	375
Breeding for Egg Production	376
Care of Young Ducks	376
Queries and Suggestions	378-9
Household	380-1
Markets	382-3

The Pathological Laboratory.—The commission, provided by the last legislature to locate a Pathological Laboratory and Experiment Station, met in Los Angeles last week and took testimony, so to speak, from the representatives of half a dozen localities desiring the institution.

Gov. Pardee, President Wheeler and Dean Wickson, of the University of California, constitute the commission and they sat en-bank, as a court, to hear and determine as to the merits of the competing towns. It developed, during the discussion, that the appropriation of $30,000 may be expended in two directions.

First, for the establishment of an experiment station.

Second, for a pathological laboratory.

The point most effective, it seemed to us, was the one made that the pathological station shall be located where there is the greatest diversity of pests. No great amount of land is necessary, but conditions must exist which will make this station meet the purposes for which it is to be created. It is not necessary to have expensive buildings either, but it is essential that the laboratory shall be provided with the necessary equipment to make satisfactory experiments.

The commission appears to understand what is needed and we have no doubt will make a satisfactory selection when its mind is made up.

* * *

Let Us Be Satisfied.—It has been the fear of a great many men, in this country, this year, that the United States would experience a reaction in business matters before the end of 1905 Indeed, it has been openly phophesied that we are on the verge of this trade reaction and that it is but a short time until we must witness it. If we are to follow precedents, pessimistic people are going to be disappointed, for an examination of the record of the first eight months of the year reveals a most satisfactory condition of our foreign trade—a condition which, as we say, taken as a precedent argues more than words for our future prosperity. From statistics compiled at the Agricultural Department at Washington, it is shown that in the last eight months there has been an increase of $248,551,812, as compared with the like period of 1904. Of this great increase, $145,409,150 was in exports and $103,142,662 in imports. Exports of agricultural products show a gain of $63,117,245 and manufactured articles $53,288,236. In imports the greatest increase is reported in crude articles used in manufacturing, amounting to $49,576,054, while the luxuries exceeded in value those imported in the like period of 1904 by $16,307,226, and manufactured articles increased $14,335,746, and partly manufactured articles increased $13,158,026.

For the month of August the exports show an increase of $25,459,282 compared with those for the same month last year, and the imports an increase of $8,154,897.

Statistics for September are not at hand. But advance bulletins are indicative of even greater increase in our export trade than that given for August. It is this healthy trade showing which most encourages us to believe we are to witness a very satisfactory year to come. For this let us all be glad.

* * *

Eating Up Our Sheep.—According to Consul Williams, of Cardiff, Wales, the world is eating up its sheep. He says that during the past three decades the decrease in the world's number of sheep has been astonishing. Three principal causes are said to be responsible for this remarkable condition. The causes mentioned are: First, people are afraid of such diseases as tuberculosis, trichina and pleuro-pneumonia, hence an increase in mutton consumption; second, the high price of beef during recent years has forced many to turn to mutton; and third, the increase in our city population and the financial prosperity that we have had has caused those fond of mutton to become financially able to gratify their appetites for this kind of meat.

* * *

Senator Allison on Rates.—Senator W. B. Allison is without doubt the foremost man in the Senate of the United States. His views are always sought by the leading lawmakers of Congress and by the public. He does not often talk for publication, but what he does say may be regarded as reflecting the sentiment of his colleagues. In an interview, last week he stated that it was very likely, providing of couse something did not occur in the meantime to prevent, that the Senate would immediately take up the question of railroad rate legislation. The commitee in charge of the matter will report to the Senate ten days after the session begins.

Senator Allison believes that, while the committee has many views concerning the fixing of railroad rates, the differences will be composed so as to result in an effective measure and one which will conform to President Roosevelt's ideas. Senator Allison points to the fact that, inasmuch as the subject has no political flavor, an agreement may be more readily reached through the absence of party feeling.

The bill which passed the house at the last session of congress was a compromise between its conflicting features. When this bill comes up for discussion in the Senate Senator Allison believes that it will be given all the time necessary and that, in view of the unlimited debate in the upper house, a suitable measure will be evolved.

Senator Allison credits the lack on rate legislation at the last session of congress to the short time allowed discussion on the measure. He declared the importance of the general question could not be over-estimated. He said that whatever congress may do at its session this winter additional provisions and amendments will be required from time to time, as the power of congress to deal with this question is undisputed and its duty universally conceded.

* * *

What the Farmers are Doing—There are between ten and eleven million farmers on the 6,000,000 farms in the country and they form the back bone of the wealth and prosperity of the United States. More than to any other one factor do we owe the tillers of the soil homage for the high place which this nation holds in the world today.

Secretary Wilson well says: "What the farmer, in his own modest, but indefatiguable way, has done for the country in the past 20 years, would take a volume—not a paragraph—to tell." It was his toil and brains that have made our exports so large and has kept the balance of trade in our favor.

At the close of the great war England held the most of our government bonds, and it was foreign investors who took most of our railroad and municipal bonds, making us a great debtor nation, and it was Europe which received in interest much of the results of our toil; but the American farmer has changed all this, and it was the meat, bread, cotton, etc., which he produced that have wiped out most of those debts, and while doing it he has fed the hungry people of the nations beyond the sea.

During the last 20 years over thirteen billions of dollars' worth of products, raised by the sweat and toil of American farmers, have gone across the waters to foreign markets. And while he has been doing this for foreign lands, he has helped build up our domestic industries, our educational institutions and our natural resources, until in every department of human endeavor we stand forth the wonder and admiration of the world.

He has not only done this in the line of production, but he devoted much of his time, money and energy in improving his surroundings, improving his live stock, improving his grain and methods of farming and the raising and feeding of live stock. He has not during this time kept his face turned to the earth, but has looked up to the heavens above him and has realized that he had a greater mission to perform in the world than simply to make money. He has realized that he is a potential factor in making the world better and greater, and from the farms have gone a steady stream of boys and girls to our colleges and universities, where they have gone to become prepared to take up the burdens of life, and whether mingling with the roaring stream of political, commercial, or professional life, or returning to the quiet pursuits of agricultural life, they have reflected honor on the old farm home from which they sprang and where they learned their first lessons of industry, honesty and trutafulness.

In the great social and industrial upheavals which are now almost threatening the stability of our national existence, it is the stability and conservatism of the farmers which are the hope of the lovers of the race. Working close to God and with Him in the broad fields, in the sunlight and pure air, they stand unmoved amidst the unrest which is now seen on every hand, and with a trust in the right they know that the world is ever moving onward and upward to better things.

So it is not only what the farmer produces from the soil that makes him a mighty factor in the world, but what he is, what he thinks and what he does, are the factors that make him great.

THE COOLIE PROBLEM.

Editor Cultivator: Does a man benefit or promote agricultural interests in a pure virgin country after he reclaims it and with much self-sacrifice makes it habitable, as is the case in Imperial Valley, when he favors the introduction of Asiatics?

Give us please a few statements and comparisons of other localities, where the Japanese and Chinese have been given an opportunity to establish themselves, and what has been the result?—F. H., Brawley, Cal:

The problem of coolie labor has been, and is, a vexing one. From a purely economic standpoint it is to be doubted whether the country is benefitted by this class of laborers or not.

The Chinese as a rule, take away every dollar they make, over and above a scanty living, and return it to China. The Japanese are more homogenious, they live better and spend more money for social and personal enjoyment. But from the standpoint of citizenship neither race has shown itself to be builders of a country. It is true, in cities like San Francisco and Los Angeles, there are certain Chinese and Japs too, who buy property, but they are exceptions to the rule. From the broad point of view, neither class has shown any ability to build up country or town. We have been compelled to resort to this class of labor because our American bred people will not do the work which the Coolie class does. On the Pacific Coast especially is this the case. We can not hire American nor German, nor Irish laborers for the class of work needed. So it becomes a matter of necessity to take Coolie and Jap labor. As a general proposition it is true we believe, that no special ability has been shown by either of the races spoken of to improve a community nor to advance its educational, social or material interests. Comparisons can not be made satisfactorily, for there are no well developed instances of social or material development from which to draw comparisons.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURAL.

Probably 75 cars of oranges will be the output from the Placer district this year.

Considerable alarm is being created by the continued scarcity of fruit cars for the Pajaro valley apple crop.

Nearly 1000 carloads of fruits have been shipped from Vacaville this season, a heavy gain over the shipments of 1904.

Fruit growers in Yolo county have petitioned the Supervisors to appoint a Board of Horticultural Commissioners for that county.

There are now planted in Fresno county about 125,000 acres of grape vines, over 80 per cent of which produces grapes used in the making of raisins.

Some of the grapes in Sonoma county are showing a very heavy per cent of sugar, going as high as twenty-three per cent. Zinfandels are bringing $20 with the premium on Petit Bouchet.

Three carloads of Mission grapes have just been shipped from Farmersville to a north end winery and it is estimated that fully nine more carloads of the same product will follow this season.

A Santa Rosa dispatch says that the Sonoma wines of last year are selling at about 5 cents a gallon above the prices for corresponding wines a year ago, and that this year's vintage will be a little smaller than that of last year.

In some sections of Fresno county a fungoid disease, or the so-called peach blight, reduced the peach crop, but a liberal use of the Bordeaux mixture at proper times corrects this trouble, which will be reduced to a minimum in the future.

The California Winery at Sacramento, which is purchasing a great many grapes, uses wooden tanks for their transportation. The grapes are dumped from boxes into these tanks. The result is a great saving in boxes and all the juice is preserved.

This season's crop of apples in Monterey county is uniform in size, excellent in quality, and is coloring nicely. Apples are packed and shipped from the following points in the county: Aromas, 3 packing houses; Vega, 1; Pajaro, 1; and Castroville, 2.

A company has been formed and will soon be incorporated, consisting of stockholders from Porterville, Lindsay, Sanger and Fresno, to build and equip a packing house at Sanger for the packing and shipping of citrus fruits through the Tulare County Citrus Fruit Exchange.

One of the features of the next Fruit Growers' Convention will be a session devoted to the consideration of pear blight. It will be led by a paper by Prof. M. B. Waite, of Washington, D. C., illustrated with stereoptican views, and a practical demonstration in fighting it will be given.

Very few know the extent of fruit shipments from the Placer county section; 1902 was a large crop, and 1624 carloads were sent from Newcastle alone. It is said that in the month of June this year, (1905) the express shipments from this office were the third largest on the coast.

The fruit shipments from Placer county for this season are practically over, only a few loads of grapes yet to go. As estimated from fruit house reports, the output this year aggregates 2868 cars, nearly one-half of this amount going from Newcastle and the balance from Loomis, Penryn, Auburn, Colfax and Roseville.

There will be a special session—two if it can be arranged—for the benefit of the Horticultural Commissioners at the next Fruit Growers' Convention, which will be held at Santa Rosa, December 5th to 8th. These annual meetings give the Horticultural Commissioners the best opportunity of broadening their ideas and improving their work, and should be attended by every commissioner in the State.

Bro. Rogers of the Boulder Creek Mountain Echo, boasts of an apple of the Bismark variety over four inches in diameter and weighing 20 ounces, having been left at his office. By moving the cylinder press and knocking out a partition, room was made for the monster apple, and it is now on exhibition as an awful example of what the climate and soil can do in that neck o' the woods.—Los Gatos Mail.

The Watsonville Pajaronian says that about 90 per cent of the dried prune crop of Pajaro valley is in the bins. As to quality the product is without question the finest in the history of the valley, and the output is considerably larger than was anticipated earlier in the season. A couple of weeks ago prunes were in demand at good prices, but during the past few days the market has experienced a slump.

The shipment of wine grapes from Placer county has not been as large as usual this year, owing partly to a slight shortage of crop but principally because the new winery at Roseville has consumed a large share of the local crop. This winery has stimulated the planting of more wine grapes by contracting to pay $15 per ton for the next fifteen years. The Newcastle cannery has been running to its full capacity this season.

J. L. Nagle of the California Fruit Exchange, will install one of the Sprague car cooling plants at Newcastle before the next fruit season opens, such as was in operation at Loomis this season. The experiment of shipping fruit in cars cooled under this system was eminently successful and the plan is likely to be quite generally adopted next season. Fruit that was perfectly ripe was shipped to Boston, arrived in good condition and brought fine prices.

Very good, is the report from Placer county on returns for all kinds of fruits this year. As an example, one peach orchard of 40 acres this season rented for $1500, and the renter netted above that over $6000. Figures of another grower at Newcastle for six years, 1898 and 1903 inclusive, from 40 acres, show an average return of over $8000 per year. Newcastle has ten shipping houses. Few growers are consigning their fruit as there is a good cash market for all fruit packed and delivered to these houses. Loomis has five shipping houses, Penryn three, Colfax four and Auburn and Roseville one each.

AGRICULTURE.

Lincoln and Roseville each shipped between 4000 and 5000 tons of grain, and also about 2000 tons of hay.

Up at Jersey Island, in the San Joaquin, are about 300 acres planted to celery, which if a good crop, should yield about 100 carloads.

The Bellingham (Wash.) Herald says that San Francisco buyers are offering $23 per ton for oats grown in that vicinity, but the farmers are holding for $25.

A large field fire on the Tait ranch seven miles from Red Bluff, which commenced burning Sunday afternoon, has destroyed over 700 acres of stubble feed and about three miles of fencing.

Reports from the river districts near Marysville, where the bean harvest is now in progress, are to the effect that the crop will average much below the normal. The average probably will reach one-fifth less than usual.

An Oregon exchange says that hop-growers throughout the Williamette Valley have agreed not to sell under 15 cents. The local banks in the various hop-growing districts have decided to stand by the growers on this proposition, and no sales under 15 cents a pound are looked for within the next sixty days.

James Seehy, agent for "Block of Santa Clara," is packing 75 carloads of Pajaro Valley apples for shipment to Eastern and European markets. In Covent Garden market, which supplies London, England, with fruit and vegetables, the name of Block on a package is accepted as a guarantee of the quality of the contents.

There have been as many as ten and twelve bean threshing outfits at work around Camarillo in Ventura County, and the work has been done up in a hurry. The crop has been unusually good at Camarillo. Many of the farmers have had as high as 23 to 25 sacks to the acre. Prices have ranged from $3 to $3.52 1-2 cents percental.

Arrangements are being made for beet growing contracts in the Chino district, for 1906, with an advance per ton. The minimum price will be $3.50 per ton, which will be paid for 11 per cent beets For each additional percentage of sugar above 11 per cent. there will be paid 25 cents per ton additional up to and including 15 per cent., making 15 per cent, beets pay $4.50 per ton. Above 15 per cent. for each additional per cent of sugar 30 cts per ton will be paid. On this schedule 16 per cent. beets will pay $4.80 per ton; 17 per cent., $5.10; 18 per cent., $5.40; 19 per cent., 5.70, etc. It is estimated on the percentages of the past years that this will be an average increase of 35 cents a ton on all beets raised for this factory.

LIVE STOCK.

A carload of light oil has been ordered from Orcutt by County Veterinarian, G. F. Faulkner for dipping cattle to eradicate Texas tick in this County.—San Luis Obispo Breeze.

The poultry raisers in the Todd school district, Sonoma County, have had to organize for protection against chicken thieves. They have created a fund to use in the prosecution of these midnight prowlers.

The goat industry is increasing in the foothill districts of Tulare county. With the wool selling at 40 cents a pound and a market growing for young goats among butchers, the industry should be profitable.

Sixteen race horses from Spreckels' Napa Stock Farm were shipped on the steamer St. Helena Saturday night for San Francisco on their way to Los Angeles, where they will participate in the coming races at Ascot Park course.

Advance turkey buyers are visiting many sections in the northern part of the State and soliciting Thanksgiving and Christmas trade at 23 cents per pound delivered at the local depot, and are advancing one-half of the purchase price.

Seventeen and one-half cents was the highest price offered for wool during the sale of the fall clip by the wool growers around Marysville. Throughout the sale the Marysville Woolen Mills continued to be the best bidder up to the end of the sale.

Henry Miller, the venerable member of the firm of Miller & Lux, whose name is synonymous with the cattle industry of the west, paid Reno, Nevada, his first visit in a number of years last Wednesday, and incidentally closed a deal for the purchase of the Linderman range and cattle in Surprise Valley, for a variously estimated price from $75,000 to $100,000.

MISCELLANEOUS.

The Haynes winery, near Los Gatos, was partially destroyed by fire; estimated loss, $10,000.

The Woman's Club of Mountain View, is to give an entertainment in the near future to raise money which they desire to donate to the park fund.

The San Benito County Improvement Club is offering three prizes of $5, $3, and $2, for the three best poultry pictures brought for a special poultry folder they are preparing to issue.

San Jose has caught the improvement fever. An election is to be held to vote on bonding the city for $100,000 to improve Alum Rock Park. A second election will probably be held to provide for sewers and the extension of the city limits.

The dam at the intake of the Power Development Company's tunnel, just below the Edison Company's camp No. 1, in the Kern river canyon is completed, and the entire flow of Kern river, consisting of nearly 300 feet is now running through the power company's tunnel.

SACRAMENTO, October 17.—Surveyor-General Victor H. Woods states that by a presidential proclamation the Lake Tahoe forest reserve has been extended to nearly 1,000,000 acres. The reserve will now cover the watersheds of the south, middle and north forks of the American river, and also the Truckee and Tahoe basins as far as Nevada. The establishment of the Shasta reserve has now been made to include five great watersheds in Northern California, containing tracts in Shasta, Trinity and Siskiyou Counties, comprising more than 1,000,000 acres.

C. H. SESSIONS, ASSOCIATE EDITOR

CRAVING OF HOGS.

In his excellent book, "Feeds and Feeding," Prof. W. A. Henry says of the unnatural appetites developed by hogs in close confinement and the means for satisfying same:

"Every stockman that has kept pigs in confinement has observed their strange craving for seemingly unnatural substances—sand rock, soft brick, mortar, rotten wood, charcoal, soft coal, ashes, soap suds and many other articles greedily devoured when offered. Such articles lie outside the range of nutritive substances, and we are puzzled to know why they should be so eagerly consumed. In the wild state the hog ranges through the woods and open tracts, living upon small animals, larvae and vegetation generally. This material is of such character and is gathered in such a manner that some of the soil is swallowed with it. With rings in its nose to prevent rooting while in the pasture, confined on board floors during the fattening period, and given feeds containing little ash, the pig's life is passed under unnatural conditions. Another cause for this craving may be the intestinal worms, which are checked or destroyed by some of the substances consumed. Unsatisfactory or incomplete as such explanations may be, the fact remains that the pig seeks out these unnatural substances and greedily consumes them.

"Ashes, either from wood or coal, will always be in place in the feeding pen, and even in the feed lot. It is surprising how much of these will be consumed by a bunch of pigs. Feeding trials show that pigs when confined to an exclusive corn diet are greatly benefited by ashes, this substance causing the feed to be more effective and adding to the strength of the bones—the latter result being due probably to the lime in the ashes. Bone meal is another substance useful for strengthening the bones of pigs. By saving the droppings, substantially all the value of this high grade fertilizer may be secured for field and garden after it has served its purpose with the pigs."

DAIRYING IN THE IMPERIAL VALLEY.

Editor Cultivator: Perhaps a few words from one of the older settlers in this "Great Imperial Valley" may be of interest to some of your readers. It is very amusing, though sometimes aggravating to residents here to read the oftimes false and nearly always misleading statements in regard to the overflow of the Colorado River into the lower basin called the "Salton sink" and now known as the "Salton Sea." Uninformed people do not know that nearly all the good portion of this great valley is situated upon a mesa or table land from 150 to 350 feet above the Salton Sea, and is in no more danger of being submerged or washed away than is Los Angeles by the Pacific Ocean. A few settlers along the two river channels leading from the Colorado River to the basin, have had their land overflowed, but little crop was in the way of the water, and but small damage resulted. The water has mostly subsided and the Colorado River will soon be under entire control, and a repetition of the overflow of last spring will be impossible after the work planned and now being done by the Southern Pacific Railroad is completed.

Many improvements are contemplated and much progress is being made all over the valley. Perhaps the one most interesting to Southern California dairymen, and one which dairymen here hope and expect to see realized ere long, is a plan by which we can pasteurize and condense our milk so that we can put it on the market all over Southen California cheaper than it can be produced anywhere on the Coast. Our feed here does not cost over one-fourth what it costs the dairymen on the coast, and many times it is nearer one-eighth. Several capitalists have been investigating the proposition and this is bound to be one of the greatest dairy sections on the Pacific Coast; it is only a question of time when our hopes will be realized. The Jerseys are looking better than ever before. No grain or hay has to be fed here. All fat, while yearlings look like two-year-olds. Twelve daughters of Lowland Lad will soon be milking (two already) and they are a wonderfully promising lot.—D. G. Whiting.

THE DAIRY STEER.

Dairy cows have for centuries been bred and trained for large consumption and assimilation of feed. They are relatively larger feeders and producers than the beef breeds. Loretta D., the champion cow at the St. Louis dairy cow demonstration, consumed daily 25.34 pounds of digestible matter per 1000 pounds live weight, while the average capacity of the beef breeds is only about 13 pounds. She yielded 6.69 pounds of milk solids daily, or 1 pound to 3.4 pounds of nutriment consumed. Add to the milk solids yielded the daily gain in weight, her daily product during the demonstration was equivalent to a gain in weight of 10 pounds per day. This, as the Iowa Homestead avers, shows what wonderful powers of feeding and assimilation have been developed in the high type dairy cow. That she transmits both her feeding capacity and assimilating powers to her male progeny is becoming apparent in feeding experiments with dairy steers.

CHANCE FOR AMERICAN DAIRIES.

Consul Moe, of Dublin, Ireland, sends the following information which, if prompt action be taken, may prove profitable to United States dairy interests:

If the report eminating from London be correct, our exporters of butter should take notice that an excellent field presents itself to them to extend their business by the introduction of American butter in the markets of the United Kingdom. This market is by no means to be disregarded, and if we can gain an introduction of our butter at this seasonable time it may mean the capture of it from the Danish manufacturers, who at present virtually control it. It is generally believed that a large part of the Danish product has its origin in Finland and Russia, being repacked and prepared for the British market in Denmark. If but-

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

24 YEARS WEAR NO REPAIRS
SEPARATOR FACTS
43 YEARS WEAR 75¢ REPAIRS

Just facts—that's all you want. Facts can't hurt you nor Tubular Cream Separators. Facts prove Tubulars outwear all other makes five to ten times over.

On August 2d, 1904, we started a No. 9 hand driven Dairy Tubular, rated capacity 900 lbs. per hour, on the hardest test a separator was ever put to—an endurance test to last until the wearing parts give way. This Tubular has now run 50 hours a week for 43 weeks—and is still running. Every week of this test is equal to a year's service in a ten cow dairy. No other separator made could stand such a test.

24 Years' Work—No Repairs		43 Years' Work—75c Repairs	
Hours run	1,200	Hours run	2,150
Pounds separated	1,080,000	Pounds separated	1,935,000
Turns of crank	8,155,760	Turns of crank	5,652,070
Turns of bowl	1,152,000,000	Turns of bowl	1,864,000,000
Oil used	3 quarts	Oil used	5¾ quarts
Time oiling	About 4 min.	Time oiling	About 7 min.
Time adjusting	None	Time adjusting	10 min.
Repairs	None	Repairs	75 cents

After 24 weeks, the balls in the frictionless bearing supporting the bowl showed wear. This was natural, for each had rolled over 32,000 miles. Renewing balls cost only 75 cents and ten minutes adjusting, yet made this Tubular as good as new. All Tubulars are equally durable. Catalogue P-260 tells about them. Write for it today.

THE SHARPLES SEPARATOR CO.
Toronto, Canada West Chester, Pa. Chicago, Illinois

CLIFFORD'S ANTI LUMP JAW

Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing **"Clifford's Anti Lump Jaw"**—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.

Our **Hog Cholera Remedy is guaranteed to cure.** Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.

Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our **Chicken Cholera and Roup Remedy** will cure all diseases that the feathered fowl is heir to.

CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE **DE LAVAL SEPARATORS**

we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.

DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

Riverside Herd of Holsteins
CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON
884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.

ter can be profitably sent from Siberia and other remote districts there is no reason why the product should not come from the United States under the circumstances of direct and speedy transportation possibilities and neat and cleanly packing. An Irish press dispatch dated London, August 2, 1905, runs as follows:

"In the present stringent condition of the butter trade a great stress is laid on telegraphic advices received today from Riga as to strike outbreak at that port, where about 10,000 casks of Russian and Siberian butter are waiting to be shipped to this side. This week's arrivals will, of course, not be affected, but possibly those for next and at least the following week. Should the labor disturbances be of a protracted character in that quarter the outlook of the butter market may become increasingly serious. General supplies, especially from the continental sources, have been so much curtailed to this market, owing to the drought there, that there is at present little or no prospect of relief in sight, while Irish butter is also scarce and the Australian season practically over. Fairly large quantities were lately received from Canada, which helped matters somewhat, but there is no mistaking the abnormal shortage, which has been reflected in values up to a point never reached during the hot season for over twenty years. A further advance under the circumstances can only be expected. Exceedingly high prices were cabled from Canada today."

Last year 1432 tons of butter were imported into Ireland at the port of Dublin alone.

TO FATTEN STEERS QUICKLY.

The Illinois Experiment Station has just issued a bulletin on "Methods of Preparing Corn, Clover and Alfalfa hay for Fattening Steers." The results of the work are stated in 30 conclusions from which we select a few of greatest interest to feeders in general but especially in the northern and central portions of California, where corn is combined with alfalfa to finish off steers.

Silage ranks with ear corn, corn meal and corn and cob meal in its ability to make rapid gains on fattening cattle.

In this test more rapid gains were secured with whole than with shelled corn and equally as good as with meal.

The feeding of a nitrogenous concentrate to supplement corn undoubtedly stimulates the appetite and increases the capacity of the steer for consuming to advantage large quantities of concentrates. Hence this system of feeding is to be recommended where a quick finish is desired.

The presence of the cob in ground corn does not appear to materially increase the efficiency of corn for beef production or for combined beef and pork production under conditions prevailing in this test. Whether or not the cattle feeder should use corn meal or corn and cob meal is largely a matter of convenience, what roughage is used, how the corn part of the ration is supplemented with other concentrates, and perhaps the season during which it is used.

A given amount of corn and cob meal did not produce any more beef and considerably less beef and pork combined than did the ear corn.

Corn meal proved much more efficient for beef production than shelled corn, while for combined beef and pork production, they appear to be about equally efficient.

This test indicates that the supplementing of corn with nitrogenous concentrates used in this instance increases the efficiency of corn and clover hay for beef production.

The chaffing of hay and mingling it with the concentrates in the form of meals did not add materially to their efficiency for beef production, although by this system of feeding there is less likelihood of getting the steers off feed or of scouring.

The amount of gain made by hogs following steers appears to be largely regulated by the amount of undigested corn in the droppings of the steers in an available form for the hogs to recover; therefore, larger gains are made by hogs following steers fed corn only than when it is supplemented with oil meal and gluten meal, thus rendering it more efficient for beef production.

Where enough pigs are provided to consume undigested feed in the droppings of steers it requires fully twice as many where corn is fed whole as it does where meal is fed to the steers.

The results of this experiment are so striking that it appears that the grinding of corn for feeding choice two year old steers during the winter season is not warranted. The profits of feeding ear corn are fully twice as large as those secured by feeding corn meal or corn and cob meal.

The feeding of silage in moderate quantities is not necessarily conducive to heavy shrinkage in shipping or small percentages of dressed beef.

Many who advocate the feeding of ear corn to cattle if hogs follow, advocate the feeding of meal if for any reason it seems desirable to eliminate the hog. The results of this experiment do not warrant such a conclusion. After eliminating the hog from the cattle feeding operations here presented the feeding of broken ear corn was followed with larger profits than the feeding of meal.

While the results of this experiment show that it does not pay to grind corn for winter feeding it should not be assumed that it does not pay to grind corn for cattle that are being fattened in summer on grass.

CURING ALFALFA HAY.

The method employed, or rather the lack of method, by farmers in California, in curing hay, has created a great deal of unfavorable comment by persons from the East. It has also been the topic of criticism by purchasers who keep town and city horses and cows and therefore must buy hay to feed their stock.

Recently the Dairy and Produce Review, of California, contained a very sensible article on the difference between curing hay properly so that it makes a desirable animal food, and simply drying it. What led to the article was the observation of a large consumer of alfalfa in the San Francisco market to the effect that he would not purchase alfalfa hay from a certain section because it was nothing but a mass of woody stems. The farmers who grew it allowed it to stand until it was too old before cutting, and then they let it lie open to the sunshine until it was so dry that the leaves nearly all rattled off. He said, in effect, that they did not know enough to cut alfalfa at the right stage and cure it properly. For that reason he did not want their hay at any price.

Hoards Dairyman takes up the subject and proceeds to say some very pertinent things about the right way to cure alfalfa hay. "It will be remembered," says Hoard's Dairyman, "that we always urged the curing of alfalfa in 100 pound cocks, cutting it as soon as the first blossoms begin to appear, and raking it into windrows as soon as it will handle well on the rake and cocking it up at once, letting as little sunshine get to it as possible. There is a great difference between cured hay in its feeding value, and sun dried hay. When cured in the cock and covered with a hay cap it cures slowly and goes through the sweating process that makes it much safer to put in the mow or stack and besides leaves the hay bright green in color and very palatable to the cattle. This process also saves all the leaves, which are the richest portion of the plant.

We might add that all varieties of hay, clover, timothy and red top, are much more valuable as hay if cut early and cured in the cock and under hay saps the same as alfalfa. What is needed is to induce a slow process of curing as opposed to a quick process of drying.

Many farmers have provided themselves with hay loaders to save labor in the field. Then they leave the grass as long as they dare so that it will dry quickly. In all this they have but one thought, that of doing the work as quickly and with the least labor possible. No thought is given to the feeding value of the stuff they call hay. On that score they are strongly oblivious, seeing only the question of labor.

The real objective point in the production of hay for every dairy farmer should be the securing of the same at its highest milk producing value.

We have often heard the observation, and we think it is true, that too few farmers understand how to produce hay at its best quality. Of course they cannot help bad weather, but every farmer can provide himself with cotton cloth hay caps and cure his hay in cocks, thus reducing the effects of bad weather to a minimum.

There is one view of the economy of alfalfa hay that is not often thought of. That is, the production of a large amount of the most valuable food on a comparatively small area of ground. This season we have put fully 170 tons of first-class hay into our barns from about 35 acres of meadow. To have produced that amount of timothy or red top would have required 85 acres of land as the yield usually goes, to say nothing of the fact that every ton of alfalfa will produce as much milk as 3½ tons of the timothy. But to retain its full feeding value, it must be cut at the right stage and cured slowly in cocks, well secured against storm by hay caps."

* * *

This subject of curing hay, not only as it refers to alfalfa, but to oats and wheat and barley, is a vital one to the stock interests of this State.

The present method is one of drying, not curing, and the hay we get is in many instances not worth anything for feed. It is allowed to stay on the ground in the hot sun and the damp of nights until every particle of strength is taken from it. It is filled with dust, rust and microbes, and damages horses by creating diseases in the stomach which are most pernicious. If common sense were used;

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

DEVON CATTLE
The Devons are hardy, easily kept and will fatten at any age. Docile, excellent milk and butter producers, and an ideal general purpose cattle. Stock for sale.
L. V. McWhorter & Sons - North Yakima, Washington

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein-Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

FOR SALE AT
Minnewawa Stock Farm
One pair dapple gray full blood registered Percheron fillies, 2 years old last spring.
One pair well matched gray geldings, 4 years old, 7/8 Percherons, weighing 3000 pounds; well broken to single and double harness.
M. E. & W. N. Sherman, Fresno, California

DR. PAXTON'S REMEDIES
for Distemper, Epizootic. Russian Influenza.
Cough and Throat Remedies
Paxton Veterinary Medicine Co.
Lock Box 95, Sta. C, Los Angeles

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.

A SPOT CASH GUARANTEE
We don't try to tell you what Security Stock Food has done for others; we show you what it will do for you.
Use Security Stock Food (glutenized) for growing animals; for fattening animals; for work horses; for milch cows. The Food won't cost you a cent if you can't see that Security Stock Food has saved feed, made quicker growth; kept your animals in better condition, given more milk, and made you more money. Write us if not satisfied and we will refund price in full. You are the sole judge. No questions asked.
For five years this guarantee has been on every package sold. It also covers Security Poultry Food, Lice Killer, Gall Cure, Colic Cure, Worm Powder, Calf Food, Heave Remedy, Healer and Rheumatic Liniment. Security preparations are sold by dealers in almost every town in the United States, who will recommend them highly and "back up" our guarantee.
SECURITY IS THE ONLY GLUTENIZED STOCK FOOD.
SECURITY STOCK FOOD CO.
MINNEAPOLIS, MINN.
When writing advertisers mention Cultivator.

if hay were cured, not dried to death, it would be worth thribble what it now is for feed. We must begin to cure our hay by some rule of reason if we are going to get out of it the best there is in it.

LIVE STOCK INDUSTRY.

Writing of the future of the live stock industry, Prof. Mumford of Columbia, Mo., says: The International Live Stock Show to be held in Chicago Dec. 2d to 9th, will do much to strengthen the stock men in fixing a higher standard of excellence in breeding.

"The International Live Stock Exposition is the greatest live stock educational institution in America. It is the one place where the best specimens of the various breeds of horses, cattle, sheep and swine may be seen. To the man who is interested in the production of market animals, this show affords the greatest opportunity available to study the very highest types. Here he can see the animals on foot and later on the carcases on the hooks. This is something which every feeder should see and study.

THE SILO.

E. E. Moore, Esq.,

Dear Sir: I was interested in reading your article in the Cultivator on Silos. I have never used silage and would like to ask how many acres of corn should one plant to fill a Silo 20 by 14 and 20 feet deep. Would it be an advantage to have it 3 or 4 feet in the ground? Does the studding require cross pins at the top to prevent the silo from spreading.—H. M. S., Riverside.

Editor Cultivator: Enclosed letter I answer through your columns. I had some cuts of my corn and silos in the Cultivator last year showing corn 16 to 18 feet high. I filled my 75 ton silo from 3 acres. This was an exceptionally fine crop grown on a light, sandy loam, planted at exactly the right time and irrigated just as it was coming into tassel. It is impossible to get ideal conditions in corn growing owing to the difference in the seasons, but one can usually grow from 8 to 15 tons of corn per acre. I am always very careful in the preparation of the soil, having it fine and clean of trash. Then just as the corn begins to appear through the soil harrow with a sloping tooth harrow. When about 6 inches high cultivate with a fine tooth cultivator, then again as soon as 18 inches high with a five-tooth, three-inch blade cultivator. If the season be good your corn will need no more work except a good hoeing when waist high, 'til you get ready to irrigate. Just before irrigating I take a large single shovel plow and furrow out so the water runs down each row. Now your corn is eight feet high and forms a perfect shade; turn on your water and see it grow. It will shoot up eight feet in a month. If you desire you can cultivate with the five tooth cultivator again and your crop is made. Of course this method of cultivation is best adapted to the light, sandy loam soils around Compton, other soils may need different methods. But all places and conditions will require that your crop be kept clean and well watered. I used to plant my silage double row, but experience teaches me that a greater tonnage and better corn can be grown by planting single rows or 39 inches apart and drilled in the row. I should think 6 acres cared as above would be abundant to fill a 20 by 14 silo. It would do no harm to have it 3 or 4 feet in ground provided there is a good drainage to surface around silo or cement the pit to a level with the ground. I always brace the top well as I have had several of my silos blow over.—Very truly, E. E. Moore.

SOME JERSEY PRIZE WINNERS.

Clarion Girl, 161,289 stood eighteenth in order of merit in the Jersey herd at the St. Louis Exposition.

Her standing as a diary animal will be better illustrated when it is stated that the eighteenth Jersey at St. Louis equalled in production the average of the best five Jerseys at the Columbian Exposition. The St. Louis Jersey herd was of remarkably even merit. It did not present one or two phenomenal "gushers," the rest being nowhere. Twenty-one cows in the herd averaged over two pounds of butter a day for 120 days.

The nineteenth Jersey in order of merit both as an economical milk and butter producer was Dela S., of Eau Claire. The above cow averaged over two pounds of butter per day for 120 days, at the end of which she was over six months in milk, returning a daily average net profit as a butter cow of 28 3-4 cents per day, and as a milk cow a daily profit of 41 cents. Moreover, her milk contained more butter-fat at the close of the test than at its beginning, the last week's milk containing 12.257 pounds fat, against 11.775 pounds for the first week. Her owner, Mr. E. E. Stevens, kept record of her milk yield after her return home from St. Louis, and he reports that in the year beginning April 24, 1904, she produced 10,650 pounds of milk. Assuming that the percentage of fat for this whole period would not average any more than it did during the official test (viz. 4.2 per cent.), even then this quantity of milk would contain 447.3 pounds of fat, equivalent to 526 pounds 11 ounces butter containing 85 per cent. fat, a year's record that would put Dela S. into the Register of Merit of the A. J. C. C., if authenticated in accordance with the rule. Such is the quality of the Jersey that stood nineteenth in the herd at the St. Louis Diary Demonstration.

Bloomfield Conan, 163,281, was the twentieth in order of merit in the St. Louis Jersey herd as an economical butter-producer, and twenty-first as a milk-producer. With a much smaller yield of milk, she approached closely to the cow immediately preceding her as a butter-yielder, averaging but one one-hundredth of a pound less butter per day. Like all her herd mates, she proved a persistent milker, giving, on the average, under four pounds less milk per day at the end of the test than at its start, after having been nearly seven months in milk. She is a "rich" cow, and in the last week of the test her milk contained more butter-fat than it did in the first. Evidently she is valuable dairy cow of good constitution, regularly consuming her rations and performing her day's work steadily, without hitch or setback.

REGULAR SERVICE BEST.

Editor Cultivator: In order to have dairy cows come in at a certain time, would a dairy man run chances of getting his cows with calf by letting them go by a few heats?—W. A. M. Tulare.

As a rule it is not safe to let cows run past their natural time for service. They may not come in heat again for some time. We have known instances where the cow became very irregular by letting her skip the regular service time.

ITCH.

Editor Cultivator: My horse has, what appears to be the itch. He rubs his tail on the stump until he wears the hair off, he also wears the mane by rubbing until his neck is sore. Has he chicken lice?

As a rule horses are not troubled with vermin although when poultry get into the barn and roost their lice will get onto the horses. The itching at the tail and at the roots of the mane with horses is generally due to over-feeding, lack of exercise and incomplete grooming, more especially the latter and the remedy is to cut out the grain for a time, exercise the animal daily and see that it is properly cleaned with curry comb, brush and cloths doing the work twice or three times daily as long as one owns a horse. To cool the blood give the horse two tablespoonfuls of glauber salts, dissolved in his drinking water, twice daily. As an outward application wash the mane and tail three times a week with a 1-50 solution of coal tar dip.

HOG CHOLERA.

Editor Cultivator: Please tell me what is the matter with my hogs. For a few days past some of them have been dying. They begin by coughing, they seem to have dysentery and in a day or two die. What is the matter and how shall I treat them?—R. M. G., Ukiah.

Your hogs have cholera, from your description of the manner in which they act and die. With all dispatch disinfect the feeding floors, troughs, hog house and their immediate surroundings daily with a water solution of a tar disinfectant two to four per cent.) If this cannot be done remove the hogs and build temporary quarters.

Feed a light, sloppy diet of shorts, bran, etc.

Do not leave water and slop in the troughs for the hogs to wallow in.

Copper sulfate can be dissolved in the drinking water and slop in the proportion of four ounces to the barrel.

Separate the ailing hogs from the herd as soon as symptoms are seen.

The dead hogs should be burned, or buried and their bodies covered with lime.

We lost in fifteen years raising about 200 hogs from cholera. As soon as the importance of disinfecting the quarters, feeding troughs, and use of sulfate copper was learned, the disease was reduced to a minimum.

ALFALFA FOR COWS.

Editor Cultivator: Readers of the Cultivator in this locality interested in dairying would like information through your columns of the relative value of alfalfa for milk production used as pasture or as hay. Also of smallest cream separator manufactured.—G. R. S., Redlands.

It is not usually considered best to pasture alfalfa with cattle. There is always some danger of bloat, and close pasturing injures the stand of alfalfa. Alfalfa hay that has been properly cured is worth as much as any other hay of equal weight, and when fed with a moderate amount of grain is considered to be much the best as a milk producer. Alfalfa cut green and fed when partially wilted is one of the best dairy feeds available and there seems to be litle or no danger of bloat when fed in that condition.

We do not know that any experiments have been made to determine the exact relative value of alfalfa hay and green alfalfa for milk production.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, *if not the best* sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the *bull free of charge. I sell on merit.*

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

leads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

When writing advertisers mention Cultivator.

La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want.

J. A. CAMPBELL, Buena Park, Cal.

When writing advertisers mention Cultivator.

FOR SALE—

Marigold's Southern Princess,

No. 181426

Freshened with First Calf, Aug., 1905

SIRE—Marigold Holyoke, 49594. Sire of many excellent dairy cows; son of the great Stoke Pogis of Prospect.

DAM—Vela Hastings, 119615, whose year's authenticated record of 450 lbs. butterfat, from 7486 lbs. milk, has put her in Class A, Register of Merit, A. J. C. C.

Price, $75.00

Address

C. W. Leffingwell, Jr.

WHITTIER, CAL.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

A SIDE SHOW AT PORTLAND.

The Lewis and Clark Exhibition which has just closed has been a notable and interesting event for the Pacific Coast—I was unfortunately not able to attend the poultry show as I left before it took place, but had the pleasure of seeing Mr. Homer Davenport's fine exhibit (a side show) of pheasants, jungle fowl, peacocks, wild geese and ducks, of all descriptions, which are, or have been, bred from specimens imported regardless of cost at his farm in New Jersey.

There were twenty-three varieties of pheasants, all very beautiful in plumage and from many different climes. The gorgeous Impeyan pheasants from the Hymalaya Mountains were I think the most beautiful. Kipling describes this pheasant, sayiug, "He will start at a great height and fly out over a precipice, closing his wings, will drop like a ball of burnished gold for hundreds of feet, then opening his powerful wings will sail for a mile." They become so tame as to run at full winged liberty about Mr. Davenport's home, he has had one for more than two years, tamer than a chicken. He bought the first that ever came to America and has had the first hatch in captivity here.

The peacock pheasant was another exceedingly beautiful bird with feathers covered with small peacock eyes. These birds are from the hills of Assam and Burmah. They frequent thick jungles and are little known, being more often heard than seen. The males have two or three spurs on each leg, whence their beautiful name "Polyplectron," meaning "many spurs." These birds have bred in captivity and in the London Zoological gardens, the two eggs they lay were placed under a bantam hen, and when they hatched the two chicks kept behind their foster mother. The bantam hen did not understand this evidently, for she kicked them over whenever she scratched for insects. Finally a brood was raised by the peacock pheasant herself, who was observed to spread her tail as a shelter for her chicks, which followed her beneath it, only running forward when she found some food for them, and soon retreating under their curious natural umbrella.

Another interesting fact in the habits of this beautiful little pheasant is the display of the male's plumage. He lifts the wing farthest away from his hen, and spreads his tail on the same slant of that wing so that it is possible for her to see all of his beauty at once.

There were many other beautiful specimens of pheasants, two of which were natives of Japan, and one from Northern Chiua, these greatly interested me not only from their beauty but because coming from cold climates they are easily acclimated to the Pacific Coast and even to England and Scotland.

* * *

Amongst the most interesting of Mr. Davenport's valuable collection were the Red Jungle fowl, the Gallus Gallus called also Gallus Baukiva, as from this fowl came our poultry. This particular bird must have been domesticated very early, probably in Burmah, as the Burmese bird is found easier to tame than the Indiau, from Eastern Asia. It appears to have passed to Europe through Persia, the Greeks calling it the Persiau bird.

The ancients, both Greeks and Romans, had a high opinion of the fowl when they did get it. The Romaus, we know, recognized several distinct breeds at the beginning of the Christian era, including one with five toes, possibly the ancestor of the red Dorking.

The Red Jungle fowl greatly resembles the Brown Leghorn in appearance, but the female of this pen only lays nine eggs before wanting to set, so would scarcely be considered profitable for a twentieth century poultry farm.

The wild fowl of this species which is really the ancestor of the Leghorn, does not average over thirty eggs per year, whilst the ordinary farmers' hen lays about a hundred and fifty eggs, the "bred to lay" hen comes up to two hundred and over. This shows what breeding and feeding will do.

I have not time or space to describe all the fowls in this valuable and beautiful exhibit for there were more rare birds from remote points of the globe than it has ever been my good fortune to see together, some of them the only known birds of their species in captivity.

* * *

I cannot, however, close without meutioning the Red Dorkiugs. Some ceuturies ago careful research was made by the poultry fanciers of Europe and Asia to find what the first known breed of poultry was. They knew before beginning their search that the Malays had domesticated the Red Jungle fowl many years B. C., but a long period elapsed between that time and when the first known breeds began to appear. The Silver Grey Dorking was well known in Europe, although the English people did not know where it came from. Examining records in Rome, they found that Julius Caesar, speaking one night at a banquet, referring to his favorite poultry, said, "Give me the red bird, with the white legs and five toes," and then they were at a loss to know what he meant, as at that time the Red Dorking had not been discovered in England, but it was later found where it had been bred for generations in one family by the name of Hamlin, and then it came about that all other Dorkings had descended from this one fine breed of poultry, and that this Red Dorking was brought to England by the Romans. A test of the flesh proved that Caesar was right, that no finer table fowl in the world can be found than the Red Dorking. They are now very rare, and the pair in this exhibit is the first that has ever been brought to America.

I believe this whole exhibit was valued at over $20,000 and as there were sixty-five varieties, not counting about twenty different ducks and waterfowl, I have no doubt of the value.

BOILED POTATOES FOR CHICKS.

Editor Cultivator: Please tell me are potatoes boiled and used in mash injurious to feed chicks?—G. H. B., Stony Point.

It is not best to feed too much starch to young chicks. Potatoes contain starch to a large degree. Older chickens will stand more, of course, than little ones. Fed in moderate quantity however, once or twice a week in mash, boiled potatoes ought not to be injurious to any extent.

Mt. Whitney Poultry Yards

For Sale. Standard Bred Buff Orpington Cockerels, and Eggs for Hatching after December 1st.

C. Roth · · Clovis, Cal.

"The Hens That Pay Are the Hens That Lay"

In the Fall!

Three Buff Plymouth Rock pullets, hatched the first week in January and tested for egg production in July, laid 28 eggs in ten days and have been laying steadily ever since. A select pen of these pullets has been mated with a one 2 year-old cock, and eggs for hatching will be sold at $1 50 per setting of thirteen. Address

F. W. Lewis *1616 E. Ocean Ave Long Beach, Cal.*

Set your eggs now to raise next fall's layers.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commiesion, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street

San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food

ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

Armour's Improved Beef Scraps

Armour's Improved Beef Scraps contain no bone, hair, wool or tankage and are a rich brown color

Henry Albers 315 South Main St. LOS ANGELES

BREEDING TO INCREASE EGG PRODUCTION.

In the year 1898 the Maine Experiment Station began an experiment, says the Homestead, to ascertain if an increased egg production could be obtained by a series of breeding from the best egg-producing stock. The stock consisted of Barred Plymouth Rocks which had been bred by the same breeder for twenty or more years, and the experiment was carried on by the aid of trap nests to indicate the hens that were doing the best work. At the beginning of the experiment the hens laid an average of 120 eggs per year.

Each year the best hens were mated with unrelated cockerels from hens laying not less than 200 eggs. The experiment has not yet closed, but the average has been brought up to 240 eggs per year. All the females now being carried in the experiment are tested hens that have laid from 160 to 251 eggs per year. The pullets put in each year are from hens that have laid not less than 150 eggs per year. All the mothers of pullets had fathers and grandfathers that had 200-egg producing mothers.

The bulletin issued by the Maine Experiment Station shows the stock to be strong and vigorous, and but few of the chicks are lost in hatching. Inbreeding is avoided. Nothing closer than first cousins being used in the breeding experiments. Line breeding is followed, the matings now being only with distantly related birds. These breeding investigations have now been in progress six years, the first year being consumed in testing the pullets to be selected for the experiment. The second year the cockerels were from hens with good records as layers.

As before stated, the average of the lot of hens in the beginning was 120 eggs per year. Three years ago the average was 150 eggs. The last two years, with great setbacks in management, and not the fault of the stock, the average has fallen to 131½ eggs. During the time of this experiment, it should be borne in mind that a number of eggs were laid on the floors of the houses and no record could be made, since none but the eggs laid in the trap nests were considered.

The housing, treatment and food have been as nearly alike as it is possible to provide, and there appears to be reasons for assuming that the increase in the yield of the flocks has been the result of breeding practices. The plan of treatment has been along the line of common every-day treatment, such as would be found in any well managed poultry yard.

THE CARE OF YOUNG DUCKS.

Young ducks seem to be able to eat at any and all times. They are the first up in the morning, ready for their meals, and the last to stop feeding. We would not deny that they will feed during the night. We should not suppose, however, that food ought to be before the ducklings at all times. Feeding at regular intervals, and then not more than they will eat up clean, is a far better plan. Food should not be allowed to lie about until it becomes sour, as it is liable to do very quickly in hot weather. The only exception we have made usually, is with the night meal, which is furnished in greater quantity than the ducklings will eat, so that they can come back during the night, or very early in the morning (before we get up) and get the balance. There is never anything left in the troughs in the morning, and the birds are ready for another meal. A writer says a mixture of barley meal with middlings and a little bran or ground oats or corn meal is useful in bringing ducklings up quickly, and a small quantity of tallow scraps which have been broken into pieces and boiled for two or three hours should be added to the meal. We believe in mixing more nitrogenous materials with the food for ducklings, especially blood meal and animal meal, or cut green bone if we can get the bones to cut. The same writer also recommends young nettles boiled, and either given chopped up very finely, or the water strained off and poured over the soft food. "This helps the young birds to feather and keeps them in health. The meal must be given in a stiff, crumbly paste, so that it can be eaten without sticking to the beaks. Water to drink must be provided, both before and after meals. They must also have plenty of gritty sand * * * for digestion." Ducklings will eat great quantities of green stuff, lettuce, beet tops, spinach wastes, cabbage, onion tops, etc.

Ducks are very profitable to raise and becoming more so, as their flesh resemble that of wild birds to a larger degree than chickens. They are therefore very popular with hotel and cafe owners.

HOW TO "RAISE CHICKENS AND A GARDEN, TOO."

The proper feeding of fowls confined in yards the greater portion of the year, and which cannot be allowed their liberty by reason of garden, lawn, shrubbery, etc., is a matter which has taxed the ingenuity of the poultry keeper for many years, says J. D. Stevens in the Reliable Poultry Journal. The bewildering array of poultry "foods" advertised in all the poultry journals throughout the country, which according to the statements of their manufacturers, contain all the necessary elements required by the fowls for their best development, best laying, best fattening, best moulting, etc., respectively, are no doubt good, but, like the numerous infants' foods advertised, they do not contain all the elements necessary for the best health and development.

Fowls which have free range over orchards and fields do not need any of these foods. They will be able as a rule to gather all that is necessary for their best development. But fowls which are kept confined in yards during the summer months, have not this opportunity to properly balance their ration and in order to keep them in a thriving and healthy condition, we must endeavor to supply them with those things which they would obtain if given their liberty. To do this requires considerable forethought, planning and labor, and, in feeding and experimenting with the multitudinous foods above mentioned, as we are all apt to do in an endeavor to get the greatest revenue possible from our fowls, we are apt to overlook one very important element in the diet of our flock, viz.: green food.

* * *

This green food, or vegetable food, is just as necessary to the fowls as the grain or meat ration; in fact, during the winter and early spring when fertile eggs are needed, it is absolu-

Buff Plymouth Rocks For Sale
Nugget Strain. Extra fine Breeding Hens and a few choice Cockerels. These birds won 1st. 2nd and 3rd at Last Los Angeles Poultry Show. Sold at a bargain to make room.
Geo H. Heady, 1839 Hoover St., Los Angeles, Cal.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

Three Dozen White Plymouth Rock Hens FOR SALE
At $1.00 each. Standard fowls and now laying.
J. H. CLARK
R. D. No. 1 Anaheim, Cal.

Standard Bred S. C. White Leghorns
EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.
CAPTAIN MITCHELL SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH
S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS
I am offering some exceptional yearling breeding stock at a reduction for the next 30 days to make room for growing stock Prices on application.
WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100
My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.
W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

LEE'S EGG MAKER
25 lb. Pail, $2.00 WILL 2½ lb. Package, 25c
MAKE EGGS
Henry Albers Co., 315 So. Main St., Los Angeles, Cal.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

Incubators
That have proven successful are the ones to buy.
DEAN'S PACIFIC
will not disappoint you. Send for "Facts From Experience," also catalog.
DEAN'S PLACE, 2509 Central Avenue, Los Angeles, Cal.

EGGS WANTED FOR HATCHING
Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.
YOUNG CHICKENS AND TURKEYS WANTED
We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.
BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations
Don't believe all we say, but just enough to buy our Poultry Foods
Emery's "B. B. & B."
THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Chlandt & Co San Francisco, Cal.

MISSION VIEW POULTRY RANCH
My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys
MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Istributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

tely essential that they have, regularly, a good supply of green food. Steamed clover or alfalfa leaves are a good substitute, but these can not take the place of the fresh, succulent leaves of the lettuce, cabbage, etc., or the juicy root of the mangel-wurzels, and if you want the eggs to run high in fertility (and of course you do during the season above mentioned) you must give your fowls the freshly grown leaves of such vegetables as they will eat.

For very early spring food we have nothing better than lettuce. The seed of this plant is perfectly hardy and can be sown in the fall. If it is lightly mulched, the seed will lie dormant during the winter and will start immediately upon the first warm days of spring, thereby being available for food several weeks sooner than that which is sown in the spring.

* * *

Another good green food for the winter is the cabbage. It makes an excellent food and we feed them in conjunction with the mangel-wurzel. The hens do not relish them, however, as they do the latter.

We also feed, in the mash, cut alfalfa or clover leaves, as these are rich in protein, and therefore, good egg-producing food, and if you are unable to supply the cabbage or mangel-wurzels, the alfalfa and clover is the best substitute you can find. But raise the mangel-wurzels if you can. One trial will convince you that you can scarcely do without them.

Not only is this green food necessary to the adult fowls, but brooder chicks, which are confined in yards, should also have their daily ration of green stuff. We have found nothing better for chicks than lettuce, as the leaves are very tender and if a bunch is fastened up where they can pick it, they will dispose of it in a very short time. They should have it every day, particularly if they are confined in runs. This vegetable is easily grown and by planting the seed a few weeks apart in the spring, a succession of fresh green food can be had all the summer. It helps the chicks digest their grain ration, thereby keeping them healthy and active, and is just as necessary to their growth as the heavier foods. It also adds bulk to the ration and consequently saves the necessity of feeding a higher-priced food, thereby cutting down the cost and adding to the profit.

Try the different "foods" if you wish to; some of them are excellent for the purpose for which they are intended, and the most of them are like the old lady's medicine—they will do no harm even if they do no good—but in your experiments with them, do not forget that all-important necessity to the health and growth of your flock—green food.

Under the penalty of incurring the editor's displeasure by making this article too long for convenience, we nevertheless wish to speak of one more matter which, although it might be made the subject of another article, yet is so closely connected with this question of green food that it may well be combined under the same head. We refer to the poultryman's garden.

* * *

We often hear it said, "You cannot raise chickens and a garden, too." This, under ordinary circumstances, is doubtless true. But here again, with the exercise of a little forethought and planning, and with scarcely any outlay of money, the obstacle can be overcome and the poultryman can have a good garden. It is only necessary to protect the garden for a few weeks in the spring when the young vegetables are just coming up, at which time the chicks do the most damage. And where one looks to his poultry for his living, and not to his garden, it is much better to fence his garden away from the poultry than to fence his poultry away from the garden. In other words, protect your garden so the chicks cannot damage it, and let them have their liberty. Here is our scheme:

* * *

Our vegetable garden is a plot of ground approximately five rods square, situated just north of our dwelling, the driveway to the barn running between the garden and the house grounds. Around this garden plot we set posts, nailing to them at the ground a foot wide board. From the board to the top of the posts we have stretched such pieces of wire as we have happened to have; some of it being four feet, and some being two feet wide, and in the latter case, we have stretched one above the other, fastening the edges together, making it four feet. This gives us a five foot fence, which is plenty high enough for all purposes. A wide gate admits horse and wagon when we wish to manure the ground for spring planting.

As soon as our brooder chicks are well feathered, we release them from the runs and allow them liberty of the ten acres. The foot wide board sitting close to the ground prevents them from getting under into the garden, and they are by that time too large to jump through the meshes of the wire, and after trying it a few times they give it up.

By this method we are able, not only to grow the lettuce, etc., required for them while in the runs, but are also able to have an abundance of all kinds of fresh vegetables for our own use during the early summer. As soon as everything is well up, say by the first of July, we let the chicks have the liberty of the garden also. The only vegetable they attack is the lettuce and this is by this time so large and thrifty that what little they eat does not hurt. They spend most of their time hunting bugs and worms and thus prove more of a benefit than a nuisance. Besides all this, they have their liberty to roam where they please and are much more healthy and vigorous than they would be if constantly confined in yards. You can raise chickens and a garden, too, by adopting this plan, and both yourself and your chicks will profit thereby.

Clip both wings of a hen and she will still fly over the garden fence. Clip only one wing and she cannot do so—it makes her go lop-sided when she flies and she cannot get far. Usually two or three hens in every flock, no matter what the breed, will not respect fences.

When mites are plentiful they drive away lice, and when a chick is free from mites, lice are liable to return. You cannot sit down and let them fight it out, for neither pest is a desirable adjunct to fowls. You must keep wide awake and watchful in either case.

Kerosene is no more effective than some other remedies, but is more easily applied than most. We apply kerosene to our perches by means of a machine oil can. If the stream is too large, divide it by a wooden plug. Move rapidly, also. Kerosene emulsion, or soapsuds and kerosene, is excellent for scaly leg.

The greater the number of chicks raised, the fewer bugs each chick will get off the range and the more bone or meat should be fed.

If fowls show an inclination to change roosting places it is good evidence that insects infest the old roosts.

Corn meal should not be fed raw to chicks, because it is liable to sour in the crop and make trouble.

THE ADVICE CAME HOME TO ROOST.

The president of one of the prominent railway corporations in America was making a stirring address to an audience of young men, and dwelt with particular emphasis on the necessity of making a good appearance.

"When you are looking for work," he said, " be careful that you are presentable. If you have only twenty-four dollars in the world, spend twenty for a suit of clothes, three dollars and fifty cents for a pair of shoes, and fifty cents for a hair-cut and shave. Then walk up to the job, wherever it may be, and ask for it like a man."

This advice was greeted with great applause and the railway president sat down amid a storm of cheers.

The very next morning a dapper-looking young fellow walked into the outer office of the orator, and handing a note to the clerk, said, "Please give this to the president."

The note read: "I have paid twenty dollars for a suit, three dollars and fifty cents for a pair of boots, and fifty cents for a hair-cut and shave. I have walked from Harlem, and I would like a job as conductor on your road."

It is needless to say that he got the job.—Baltimore Methodist.

FOR A POPCORN PARTY.

A novel feature at a recent popcorn party consisted of dainty little square-shaped bowls made from crepe paper of various colors, the shape being formed by gathering up the corners with a few stitches; inside was placed one of stiff writing paper. These bowls were set on pretty plates covered with dainty Japanese napkins. By the side of each lay a ragged-edged card on which some question relative to corn had been written. In the center of the table was large dish, which I suspect to have been a common pan, covered on the inside and out with plainted crepe paper. This was filled with delicious popcorn, which was discussed with much satisfaction while the questions were being answered. The corn was shelled, popped and salted by the guests themselves, half a dozen corn poppers being provided and a rare bed of coals in the big old-fashioned fireplace.

CHANCE TO LOSE HER.

They were about to go for a sail on the lake.

"Shall we—er—take your chaperon with us?" queried the young man.

"Will there be any danger?" she asked.

"Well, the boat might capsize," replied the youth.

"Then let us take her along by all means," said the fair damsel.—Chicago News.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

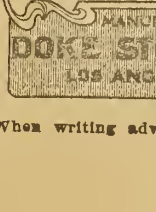
Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

A BARGAIN—Owing to changes in my business I am disposing of all my Thoroughbred Homer Pigeons. Parent stock, $2.00 a pair (from the East) goes with the young at 75c per pair in lots of 10 pairs or more. Address
M. A. W. Rodger, 144 Elliott St., Long Beach, Cal.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the Last Los Angeles Show Our Birds Won Twelve Prizes.
Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks
Duck Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Ducklings 10 days, old, 25c each. Ready now.

SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.



ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16 page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

30 DAYS TRIAL
Buy From Our Factory—Save One-Third
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cal. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

When writing advertisers mention Cultivator.

Queries and Suggestions

BLUE GUM SEED.

Editor Cultivator: Will you qlease tell me when to gather and how to plant blue gum seed.—J. C. Santa Ana.

You may plant blue gums now, either in a bed or, as the nurserymen do, in seed trays or flats. They are best controlled in the latter receptacles. The seed may be sown now: not later. In saving seed gather the capsules before they open and put in the sun. You must wait for seed until it "shells out."

WITCH GRASS IN ALFALFA.

Editor Cultivator: I have a field of old alfalfa that is pretty well run out with devil grass. I can illy afford to allow it to run fallow for a year, is there any crop I can profitably raise on it, that will get it in good shape to reseed a year from this coming Feb.? The ground is rather heavy, running to a stiff red clay in spots. It raises fine crops of hay where it is sufficiently soaked, but does not stand a light irrigation.

Also would nitrogen culture help a new reseeding?

I also have about two acres of one year old seeding that caught fine but next to the ditch the devil grass has choked the alfalfa badly. The plants are there but can not grow. Would winter harrowing help the difficulty? —A. S.

As corn does well on your land we would advise that crop for a year, with good clean cultivation. On your young crop, disc harrowing during winter would help the alfalfa and somewhat discourage the grass. Nitrogen culture would probably not aid reseeding but would benefit the plants after they are growing.

BOUNDARY LINES.

Editor Cultivator: There is a very perplexing question puzzling me, so I send it to you to solve, if you will, through your valuable paper.

If parties who own land joining should have some difference over a few feet of land. Say the firts party was there a year or so, and then the second party bought the land joining him, and then had his land surveyed, and found out that the first party had several feet of land he had bought and gave him notice to vacate and he would not do so.

How would he recover the land that belonged to him?

Also will a survey made by a competent surveyor, not a county surveyor hold good; also would he have to have his corner stakes recorded?—Mrs. M. B. V.

A dispute as to boundaries is to be determined by survey, and any competent, reputable surveyor is, in the eyes of the law, on an equally good footing with the county surveyor. The county surveyor secures a little prestige by his election to do county jobs, but a jury or judge might determine, from the character of the evidence that he was an inferior and incompetent surveyor.

There being a plain and probably an honest difference between the parties as to the line of division, it remains for the owners to each employ a surveyor to represent their respective interests in a new survey, where the error made by some former surveyor can be readily corrected. There is no room for difference when a competent survey is made. If, however, there should be a difference in the results arrived by two apparently competent surveyors, it will be readily seen that only a trial of the case in court could determine which one of the surveyors was in error, where a preponderance of competent testimony would settle the issue.

Recovery of land can be made by notice of trespass and afterward by suit, if trespass exists.

It is not necessary to record the corner stakes, as the surveyors notes indicate where they were set.

The best and safest rule in all such differences is to consult a reliable attorney.

PLANTS AND SEEDS WANTED.

Editor Cultivator: 1. Please give me a list of the herbaceous perennials and what time to plant them.

2. Also name of some rapidly growing vine for veranda. 3. Is there a pink climbing rose vine that will grow well in this locality, we have an altitude of 2000 feet above sea level.

4. What time should carnation plants be set out for early blooming? 5. Also rose bushes, raised from slips? 6. Can the tall growing nasturtiums be planted any time—with irrigation.—Very truly yours, Mrs. F. A. R., Alpine.

1. Ageratum, anemone, aster, begonia, boltonia, candytuft, canna, Canterbury bells, chrysanthemum, coreopsis, cuphea, daisy, dahlia, day lily, evening primrose, foxglove, forget-me-not, fuchsia, gaillardia, geranium, golden rod, grasses, heliotrope, (dwarf), heuchera, hibuscus, (herbaceous), hollyhock, hunnemannia, iris, larkspur, lavender, linum, lobelia, lupine, nierembergia, pansy, petunia, phlox, pink, poppy, primrose, rudbeckia, salvia, snapdragon, statice, stevia, stocks, sweet alyssum, sweet william, verbena, violet, wall flower . Plant now.

2. Australian pea; or the Madeira vine. Either one is very fast in growth; so is the perennial morning glory. For an an annual nothing grows faster than the hop. 3. Dorothy Perkins, Empress of India (splendid), or climbing Malmaison are three pinks. Crimson Rambler is a very deep rose color. 4. Now. 5. Anytime after rains commence. 6. Yes, but frost will catch them in many districts; they are tender.

INSECTS ON ORANGE TREES.

Editor Cutivator: There is some kind of insect eating the young growth on my orange trees. It is very much like lice, of a yellowish color. It makes its first appearance in the tender shoots, crawling and eating on the top side of the leaves, causing them to curl up, after a time it develops wings and disappears. The leaves partially straighten out, but the tree has a ragged apearance. The same thing occurs with each growth.

Can you tell me through the medium of your valuable paper the name of the pest and a remedy? Yours truly, C. C. A. Sanger.

The description given in the above letter is not sufficient to determine what insect is attacking the trees. Specimens of the insect should have been enclosed in a phial or box and forwarded with the letter. It can hardly be aphis as they are not active at this time

R. M. Teague, the well-known nursery man reports an insect (unknown to him) attacking the young growth (principally) of the oranges of the northern section. It extracts the chlorophyll or green coloring matter of the leaf, leaving it striped and blotched. The insect also weaves a web. This would seem to indicate that it belongs to the mite or spider family and is probably the same insect referred to above. It may be a newly imported insect or a native species that has suddenly become active. We would recommend the use of the distillate mechanical mixture or distillate emulsion as an experiment. Subscribers who write for information in such ccases as above should forward specimens of the insect.

GARDEN QUERIES.

1. What would you think of the landscape effect of planting our driveway, between which and the lawn are redwoods strips, with Lippia repens to prevent washing, which, as we are on a sloping hillside takes place more or less? There is not enough driveing to injure the growth, and the Lippia would be more restful to the eye than the bare ground and cleaner. We have thought of making a stone gutter on the outer driveway side of the drive but the Lippia idea has just occurred to us.

2. Would not a good covering of Lippia tend to conserve the moisture in the soil? What effect would it have upon the fertility of the soil?

3. What shall I do with my Chinese lily bulbs, which were planted in March and grew thriftily but did not flower and have now "died down."

4. Can you tell me something of enclosed shrub? From a little pot plant set in the open ground, it has made a wonderful growth of several feet during the summer and is now budding at the tips of the long graceful branches.

5. When shall I transplant my double white and single purple violets?—L. S. W., Glendale.

1. The scheme of planting Lippia in the driveway is a very commendable one, nothing could so much aid in giving a "restful" touch to the local landscape.

2. Lippia will aid in the conservation of soil moisture, its draught either of moisture or plant food, is very light.

3. If the bulbs have cured of their "own sweet will," allow them to remain dry one or two months longer and replant.

4. The flowers and leaves sent are from Escallonia rubra, a shrub from South America belonging to the Saxifrage family.

5. Now or in early spring, as you find convenient.

PEAS FOR THE ORCHARD.

Editor Cultivator:—

1. In a recent number of the Cultivator, Professor Cook advised planting peas in the orange groves during September. Our grove has been cultivated every ten days during the summer and the soil is dry for five or more inches below the surface, should peas be planted under such conditions, and how deep?

2. In the July 21st Cultivator under the head of "Clean cultivation or no cultivation," the exhaustion of the soil by long continued clean cultivation was set forth, what would be the desirable method to pursue with no cultivation?

3. Would it not increase the humus and also the friable quality and water containing capacity of soil which has been successively planted for fifteen years to grain, to plough as deeply as possible after the first rain and sow to peas; thereafter they get a good growth and the soil is wet deep enough to plough with a subsoil plough and plant to grain or any desired crop?—L. S. W., Glendale.

1. Peas should not be planted in your orchard until after a thorough irrigation. Under present soil conditions the peas would not sprout until after the first rain. Plant peas three inches deep now, either with drill or by plowing them in.

2. You can only practice "no cultivation" with an unlimited supply of water, and in such a case you should have a cover crop; if you should not provide one, nature would, very quickly.

3. The peas, if growing vigorously will take up so much water and so fast that you would never be able to sub-soil after the first rain, no matter how heavy, until you first gave the land a good irrigation. Otherwise your scheme is all right.

RAISINS AND OLIVES.

Editor Cultivator: Please tell me through your columns how to take care of raisins after they are dried, should they be packed in boxes or sacks and how long must they remain in the sweat-box. Also please tell me how to sulphur almonds and pickle olives.

Thanking you for an early reply, I am, Very truly yours,—Mrs. F. A. R.

Raisins should be put in sweat boxes

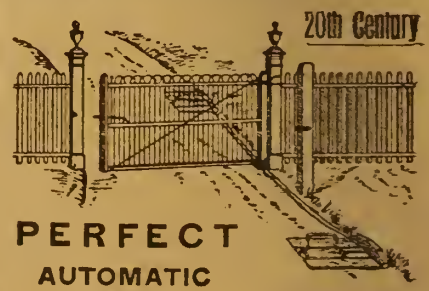
THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

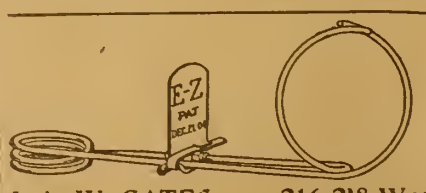
DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES

Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

Stump and Tree Pullers
Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1½ minutes. 1 to 5 acres at a setting. Different sizes to suit all kinds of clearings. For illustrated catalog address
Powerful, Handy, Low Priced.

Milne Mfg. Co. 977 Ninth St., Monmouth, Ill.

20th Century

PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. Works 365 days each year. NO OILING—ten minutes each year and 10 to 20 cents expense—no more.
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California



Ask Your Dealer
for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

and so remain three or four weeks. These boxes should be tight and if raisins are very dry the boxes should be piled directly above each other, to exclude all the air possible; as they dampen up a little some air must be given—watch them closely. If raisins are yet somewhat green, give the air free access for a while. Do not put more than 4 or 5 inches of grapes in each box.

Do not sulphur almonds unless they are very dark colored, and to be marketed, they are better without it In sulphuring they should be sprinkled to make them moist, put in a bin or box with perforated bottom and burn the sulphur beneath, allowing the fumes to go up through the nuts.

The following is the process used by one of our largest olive picklers. Give a lye bath twenty to thirty hours time and strength of solution vary, and are based on experience. Then wash thoroughly and put in a weak brine—four ounces of salt to the gallon. After five days put in another brine—six to one, then seven to one, and on to nine to one. This last is the best applied scalding hot. They may now be canned, put in sealed jars, or left open. The above is merely the formula, for successful olive pickling, experience is the greatest need.

OLIVE CRUSHER.

Editor Cultivator: In the Cultivator of August the 18th, you have a cut of an olive crusher and press. Would you kindly inform me where I could purchase a small outfit for making olive oil as an experiment I have but a few trees of the Mission olive and would like to try on a small scale. —A. J., Santa Barbara.

Write to Toulouse & Delorieux, 618 Commercial street, San Francisco.

MILDEW ON BEANS.

Editor Cultivator: Enclosed you will find some beau leaves. Please tell me what ails them and the remedy. —A. R. G., Tustin.

Leaves are covered with mildew. Nothing can be done to get rid of it in such an advanced stage. Moreover, a bean crop is not worth such a trial. The disease probably could have been prevented if the vines had been sprayed in time but it is doubtful if the crop would pay for the labor and material thus expended. This disease is usually due to unfavorable weather.

LAWN MAKING.

Editor Cultivator: Will you please inform me how to make a blue grass lawn. I have tried twice but failed each time.—Newcomer, Petaluma.

It is rather late to make a lawn now, for the young grass would be "in the milk" just at the time of our usual frosts and even a slight frost would injure the grass in that stage. Better wait now until March. The method given below is for a first class lawn.

Thoroughly work the ground to a good depth and turn under two to four inches of well rotted manure. Cow manure is the best, unless soil is very heavy. After spading, wet down well and let stand till dry enough to work, then tread over every part of it carefully, with your feet close together. On large lawns we resort to the use of rollers, but this mode does not find the small soft spots as well as your feet and sufficient time can be spent on a small lawn to do it in a most thorough manner. This treading will insure you an even surface and no future settling.

Rake the low places full of soil, making the surface just as smooth as possible, for as you leave it so it will remain. See that the surface is pulverized as finely as possible. If the surface is perfectly dry when you wish to sow the seed, give it a light sprinkling and let it remain for an hour or two until it gets over being sticky. The seed should be sown when there is no wind, early or late in the day is best. Begin sowing at the back side, using boards or planks to walk on, for when you surface your ground you must "back-up" in the work and never set foot on the plat again until the first mowing, all sowing, covering, watering, weeding, etc., must be done from boards laid down. After sowing the seed and raking it in gently and not too deep, sow over the surface one half inch or so of well-rotted cow manure, previously sifted through a one-inch mesh, and then give it a good "soaking."

The first watering (and subsequent ones) must be given with care, and the water evenly distributed with a fine spray so as not to wash the seed around or make channels through the manure cover. As soon as the weeds are large enough to pull, get in on your boards and weed. Better have two boards, one to kneel on and the other to keep your toes from digging up the soft and easily disturbed soil. Remember that manures carry lots of seeds of noxious weeds and should be thoroughly rotted or "wet down and turned over several times previous to using. When the grass is tall enough to make the least cutting possible, cut it as often as the growth will allow. Care must be taken to tread very flat-footed for the first two or three mowings or until the grass gets started sufficiently to keep you from tearing up the earth.

By following closely the above directions you will get the best lawn obtainable.

RAPE AS A NURSE CROP.

Editor Cultivator: The query of subscriber and your reply with regard to sowing barley with alfalfa bring to mind a question I asked at the Seaside Institute last year, as to the suitability of rape for a nurse crop for alfalfa. I have since tried the experiment. I did not sow it with alfalfa but by itself. I had seen some in a garden patch in the outskirts of Long Beach but did not know how it would fare with the small attention which would be given it, if sown as a farm crop. The first week in November last year I drilled about one-sixth of an acre, using planet and garden drill. The land had been irrigated about a month previously for the purpose of sowing onions, but did not hold moisture close enough to the surface to suit me.

The land varied from very sandy to slightly alkaline. The seed started first and made the best growth on the best land, but when the cold wet weather of December came it started well all over and by the latter part of January was from 18 inches to 2 feet high.

By the end of March where it had not been fed off it was over 4 feet in height.

The long, broad leaves make a good shade while the single stalk will not crowd out alfalfa as barley does when it starts. Of course it would have to be sown very thinly, about 1 lb. to the acre, I should think. Rape is what I should use if I sow any more alfalfa.

Your reply to Mr. Bell about three weeks ago, included a remark that farmers should reclean their seeds. To do so by hand would be very tedious, while to get machinery to do it with, would cost more than the benefit to be obtained, unless one was sowing very extensively. The dealers could do it more economically if they desired, and the extra price which purchasers would have to pay, would be compensated for, by the fact that they would have to buy less seed. The amount (25 to 30 lbs.) of alfalfa recommended is a great deal too much. I use 12 lbs., and by using a seeder and going over the field lengthwise with one-half the seed and crossing with the other half generally get good results. According to the Encyclopedia Brittanica there are about 12,000 seeds to the ounce almost 200,000 to the pound. Therefore if every seed were fertile and properly sown there would be about 9 plants to every two square feet.

If you sowed five lbs. and allowed 1 lb. for unevenness in sowing another for too deep or too shallow covering there would be 3 lbs. to grow. If the seed was 66 2-3 per cent fertile that would leave 2 lbs. to the acre or 3 plants to the square foot which would make them 4 inches apart, which is about as thick as it could stand when it obtained its growth, consequently if 10 lbs. or 12 is sown that would bring it to 18 or 20 plants to the foot, which ought to satisfy anyone.—C. B., Long Beach.

FLY KILLER.

Editor Cultivator: Can you give me any receipt for fly killer on cows, or to keep them from congregating on screen doors at night.—P. J. M., Palms.

There are a number of insect powders which may be sprinkled or rubbed on cows, but they are no more effective than a thin blanket made of grain sacks and tied around the cow. The latter we have used with good results.

In the fall flies will collect on screen doors and it is difficult to find any thing to clear them, except to brush them down early in the morning, and sweep them up and burn them.

TULARE GRANGE.

The Tulare grange convened in regular session on the 7th. A bountiful lunch was served.

The special committe appointed at a former meeting to report on the conclusion of the Board of Supervisors as to granting a franchise to individuals or incorporations to erect poles and stretch wires for the transmission of electric power, generated on Tulare River, in Tulare County, beyond the county limits, reported that the Board of Supervisors had resolved to grant a franchise for the transmission of this power, but under strict conformity to the law governing such consessions.

Mr. Fred Jacob, of Iowa, being present on the request of the Worthy Master, gave an account of the working of the Mutual Fire Insurance Companies of that State. In 97 counties there are 117 Mutual Fire Insurance companies; they have been in existence many years; between two and three hundreds of millions of risks are on their books, risks are written for five years, no risk is assumed until the company has applications amounting to $100,000; no one risk in excess of $4000 is written; losses are paid by assessment; assessments are made the first of each year; assessments now averaging one and a half mills per dollar per annum, no assessment any year exceeding two mills per dollar. In all the years the company has done business, this has been sufficient to meet every loss; the greatest one loss in Mr. Jacob's company being $2455.50; every loss is promptly paid as soon as adjusted, the company borrowing the money until the annual assessment is collected; local banks loaning the money at 4 to 5 per cent. No money is collected until needed, so no funds are kept on hand to excite the cupidity of weak agents. Expenses are met by a collection of one dollar for every risk written and of one-fourth of one mill on the dollar on the amount of risk.—J. T.

Parties near Springville, Tulare Co. are going to try date growing on a commercial scale.

YOUR EASTERN FRIENDS

Should know that the Low Colonist rates are now in effect from Eastern Points to Southern California via the

SALT LAKE ROUTE

From Chicago	$33 00
" St. Louis	30.00
" Kansas City, Omaha, Council Bluffs and Missouri River Points	25.00

Fast Time — SALT LAKE ROUTE — Elegant Equipment

Through Tourist Sleepers Daily between Chicago, St. Louis, Omaha, Kansas City, Hannibal, St. Joseph and Los Angeles.

Information gladly furnished by any representative of the Salt Lake Route, or by addressing

E. W. GILLETT, Gen. Pass. Agt. T. C. PECK, Asst. G. P. Agt. Los Angeles, Cal.

Choice of

MANY ROUTES

East and West

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

SOUTHERN PACIFIC

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

OCTOBER DAYS.

The goldenrod is burning
  Its yellow torch so bright,
On rocky ledges flaming
  Beneath some barren height.
The asters pale and purple
  Have come to keep their tryst,
To trim the fields and byways
  With gems of amethyst.
The clematis and ivy
  Have dressed the walls of gray,
And golden corn is waving
  Above the pumpkins gay.
October hours are golden
  Her flowers are jewels rare,
Her fruits are rich in nectar,
  She is a goddess fair.
Oh! Crown her queen of Autumn,
  And bid her steps delay,
Ere winter comes as monarch
  To steal her bright array.

—Louise Lewin Matthews.

Playing With Fate

Harry followed the porter into the parlor car, folded up his overcoat, and settled down to read; but he could not fix his attention upon his novel.

The occupant of the opposite seat disturbed him. Apparently she was asleep and unconscious of traveling backward. She was pale and there was a pathetic droop to her lips. The book in her lap was slowly but surely slipping from her unheeding fingers.

Its slow progress troubled Harry. He wished the volume would travel faster and get the threatened catastrophe over with, so that he might attend comfortably to his own reading.

The expected happened at last, however. The owner of the book opened a pair of startled brown eyes and looked straight into harry's interested blue ones.

"Why, Harry!" she exclaimed, flushing from throat to brow. "It is really you? You're not a ghost?"

"Certainly no ghost," said Harry. "To think that I didn't know you, Beatrice! But it's been—let me see, how many years?"

"Don't speak of years; what are you doing in this part of the country?"

"I'm going to Pidgefield to spend Sunday."

"So am I."

Harry did not think it necessary to state that the main purpose of his going was to ask a certain young woman an important question. Perhaps, as things turned out, it was quite as well that he refrained from going into details.

"Do you remember," asked Beatrice, "what good times we used to have in the rose garden."

"We were next-door neighbors then, weren't we? I used to crawl through the hedge on my hands and knees to visit you. What was it we used to play?"

"Supposing. 'S'posin',' we called it then."

"Oh, I remember. You sat on the bench near the beehives, with your lap full of big pink and white roses, and I sat on the ground at your feet. It began like this: 'S'posin' a pirate should come and carry you away—' "

" 'In a great big ship with lateen sails—' "

" 'And a crew of murderous Lascars—' "

" 'And chests full of gold——' "

"Gold, certainly. I'd follow——' "

"Would you, Harry?"

"Of course," said Harry, not noticing that the girls voice had grown tremulous. "S'posin' this is the ship."

"Yes—yes——"

"And we're sailing—sailing——"

"To a far-off country, and the pirate is waiting on the shore——"

Beatrice glanced apprehensively over her shoulder.

"Waiting to seize me and carry me off to his dungeon. Yes, go on. I can see him."

"I'd draw my sword and slay him, and say. 'Fair one, be mine. Come to these arms. I love thee!' "

"O, Harry! You—didn't say it, afterward, when—I used to wonder sometimes."

The girl's face flushed, and then paled suddenly.

"But the pirate didn't come. You didn't need me. If he had, you know ——"

"But I think—I have reason to believe I'll find him waiting at the station. He's a wealthy pirate with chests of gold, and—the family expects it."

"I'll run him through with my broadsword—my umbrella—if you say so."

"No, it's too late. I rather think I shall have to let him carry me off, and yet—s'posin'—s'posin' at the same moment——"

"Norwalk—all change!" the conductor called out lustily.

Harry leaned forward.

"Let me take your bag. You are sure——"

"Look! Just inside the gate."

"Not Anderson, Beatrice? Surely not Anderson, of all men?"

"Yes, Anderson. The pirate, you know."

"Beatrice, s'posin'—oh, Beatrice, let me save you!"

"Do you mean——"

"Yes, everything. Quick! May I save you—now—always? I always meant to, Beatrice."

"Oh, do ,do!" cried the girl, with a lovely color flooding her face, and her eyes dewy with tears of joy.—Emma E. Reis is American Queen.

Caught hugging his best girl, a smart farmer's boy declared he was only embracing an opportunity. And then his sweetheart flashed out that "her name wasn't Ann Opportunity—he knew well enough that it was Editha Madeline Smith! And if he was ashamed of her he could just make himself scarce around there and hunt up his Ann!"

Manners are of more importance than laws, being the foundation stones of civilization.

Simplicity of manner shows the best breeding. Effusiveness and loudness are the stumbling blocks of good manners.

BEAUTIFYING THE HOME.

In this utilitarian age when people are directing their thought to money making alone, the following well made suggestions by Mrs. Creighton in the Farmers' Sentinel, will be found of interest: There are few people who are altogether indifferent to the beauty of their homes, but the majority care more about comfort than beauty, and to many the association of the familiar objects around them with the happy days that are past and the dear ones they have lost, means far more than any intrinsic beauty they may possess. But there is no reason why beauty should be dissociated from comfort, and there is no reason why cherished associations should not add a new beauty to objects already beautiful in themselves, whilst it must be a gain to live amidst surroundings which please and charm the eye and help to keep the mind serene.

It is a mistake to suppose that only the rich can hope to have beautiful things around them, and it is equally a mistake to suppose that there should be a fashion in beauty. Before all things, the home should be an expression of its owners' minds, should speak to us of them. It is a pity that so many homes should only tell us that their owners have utterly conventional minds, and have never troubled to have a taste of their own. Some one was consulting me the other day about the decoration of a new house, and in speaking of some detail of ornament he said: "But will that be the right thing?" To which I could only reply, what could it matter whether it were the right thing, so long that he was sure he liked it? But he remonstrated that it was so difficult to have the courage of one's tastes, and so vexatious after one had decorated one's house to have people coming in and telling one that this or that was not right.

I do not think the real difficulty is having the courage of one's taste, but forming a taste at all, and knowing what one's taste is. Anyone who really admires, and knows his reasons for admiring, will not be shaken because he finds that others do not admire where he does.

Yet we must own that there are many who have no capacity for forming a taste of their own and these need not be ashamed of seeking guidance. It seems a pity that they should be so often willing to be guided by the man in the shop, who tells them what is quite new, or what is most sold, or gives them some other specious reason for getting them to take his particular goods. The knowledge of character shown by the salesman is indeed admirable. He knows when to sympathize with a desire already formed, when to guide a vacillating mind, when to express scorn for the commonplace, when to plead the authority of fashion, and when he may hope to persuade the weak minded to discover that something hitherto unsaleable is just what he has always wanted. But if we have not clear views of our own as to what we like we might at least try to exercise judgment in our choice of those by whom we will be guided.

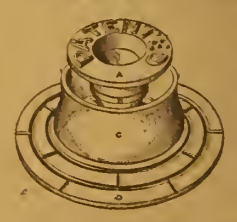
It is even possible for all to arrive at least at some principles of taste for themselves. Increased faculties of production and communication have multiplied the objects with which we can adorn our homes. We have more things and cheaper things than our forefathers had. Their tables and wardrobes lasted for generations and still adorn many of our homes. The drawing-room and bedroom suites which we buy hardly last a lifetime, and make the homes of our old age often look little better than a shabby hotel. If we care about the beauty of our homes, the first thing we should remember is that we must buy nothing that is not good, and, if possible, beautiful in itself.

Why should we want to have everything at once? It is to possible to live with a few things, and these, if they are carefully chosen, will give all the more delight because they are few, and because they are beautiful. Then there will be always be the pleasure of adding as we can afford it to our treasures, adding only after much thought, much trouble to find exactly what we want, and so getting the fullest possible enjoyment out of each new possession.

In towns, rooms should be as scantily furnished as possible, so as to make it easy to keep them thoroughly clean and fresh. They should suggest sweetness and cleanliness, at least, however simple they are. But of course if there are to be few things, it becomes all the more important that they should be well chosen, that they should speak to us of the tastes, even of the characters of their owners. In a scantily furnished room also the color of the walls, and of the carpets, assume a special importance. The carpet can be well seen, and it is worth while, if possible, to have a really beautiful carpet. Your carpet will probably meet your eyes more often than any other object in your room, and may grow to be almost a friend. A good carpet may live with

The Star Oil Burner

Its Own Gas Maker



Not an experiment, but a practically tested and successful invention. No superior for safety, simplicity, economy and durability. Without bolts, screws or rivets. Free from soot and smoke.

STATE AND COUNTY RIGHTS FOR SALE
For terms or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation

BURN AIR AND SAVE FUEL
You can do it with the
HAGUE IMPROVED DOMESTIC OIL BURNER
It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to
Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

Sievert Oil Burners

Superior to all others. A perfect system of heating with distillate oils. Non-explosive, safe, simple and economical. Made in sizes for Stoves, Ranges, Water Heaters, Furnaces and Boilers. Send for Circulars.

1007 N. ALAMEDA, LOS ANGELES

When writing advertisers mention Cultivator.

you all your life, and in your old age, still beautiful in its old age, may speak to you of the children who have played on it, and the dear feet which have trodden it.

The decoration of the walls needs also much consideration. Before we bewilder ourselves with books of patterns from the paper hangers, let us try and discover what we really want, and not be guided merely by fashion, which one fears may tell us to have a paper covered with peacocks and poppies, and another year to cover our walls with brown paper. If we happen to possess many pictures or engravings, the decoration of the walls must be decided so as to make a good background to them; if there are few things to hang on the walls some may like the decoration of a well designed paper, and that in most cases a quiet, soothing effect of color is likely to rest us more than a luxuriant growth of scarlet flowers, or a frieze of purple mountains with pine trees standing out against a crimson sky.

The arrangement of our pictures also needs thought. To begin with, they should be hung low enough for us to see them. It is difficult to imagine why it should be so common to hang pictures high above the line of the eyes near the ceiling. The frames should be well made, and suited to the picture. We should not be tempted by the cheap and tawdry frames, which quickly fall to pieces and let in dust behind the glass. We need not speak about the hanging of really fine paintings since few are so fortunate as to possess them, and moreover they may almost be said to hang themselves, as it is impossible to spoil them. But in these days it is possible for almost anyone to have at least a few photographs or engravings of really fine pictures, and the choice of these should reflect the taste of the owner.

A GIRL'S NEED OF COURAGE.

What does the girl who has to make her own way in the world need most? Some say ability, others health, again perseverance. Foolish people say beauty, wise ones character.

All agree that she must have courage. That is what every woman needs, and is what few girls ever get from their early training or from their education.

Physical courage will never be a feminine virtue, as long as high heels, long skirts, corsets and tight sleeves are a part of a woman's clothing.

You can't feel that perfect confidence in your own strength, no matter how fine your physique may be, when your heel is likely to turn any minute and your arms are kept from their natural, broad free movements by confining bands.

A boy learns as soon as he is out of creepers that he is to be a brave man some day and must not cry. The ideal is held before him constantly.

No one tells the little girl not to cry when she is hurt. Courage is taught the boy at every step.

The girl has to learn her own lesson later when it is harder and then without aid.

What every working woman wishes for herself is courage:

Courage to look upward and beyond the narrow limits of every-day work.

Courage to trust again when trust has been betrayed.

Courage to get out of the engulfing rut of things.

Courage to keep on seeing and believing the good in people despite every day's experience.

Courage to fight the destroying sense of loneliness and isolation.

Courage to help others, even where it seems to do no good.

Courage—supreme courage—to keep faith with one' self.

Courage to hold to the knowledge of the Love Divine, which is the source of all courage.

Courage to keep one's ideals and to fight for them if necessary.

Courage to face the facts and keep on smiling.

Courage to pull one's self together after mistakes and begin again.

Courage to forgive where forgiveness will be called weakness.

Courage to bear slights and insults without complaining.

Courage, whatever comes, never to whine.

—Margaret Hubbard Ayer.

A STORY OF STONEWALL JACKSON.

It happened that the writer and another cadet occupied the same room with Major Jackson and another officer of the institute. As we were retiring, the Major said to the officer mentioned. "Captain, what do you do with your watch and purse when spending the night in a hotel?"

"Well," said the Captain, "I have no fixed rule; but ordinarily I put my waistcoat in which I carry them under my pillow."

"I can tell you a much better way than that," said the Major. "I always place my watch in one sock and my purse in the other, and lay them on the floor as if they had been thrown there carelessly. No one would think of looking into a pair of soiled socks for valuables.

We were up betimes next morning—before daybreak, if I recollect aright—and, having breakfasted, started for the wharf to take the boat. We had marched possibly a couple of squares when we were surprised to hear the Major's voice giving, with his peculiar intonation, the command: "Detachment, halt. Place rest." Turning to see what was the matter, we perceived the Major trotting briskly toward the hotel. He soon returned, and marched us to the boat.

Suspecting the cause of the stoppage, I approached him as soon as the boat had started and said:

"Major, I was much struck with your method of concealing your watch and purse last night, and I think I shall adopt it hereafter." A broad smile crept over his face as he replied:

"Well, Mr.——, if you do follow the plan, don't put on clean socks the next morning and forget the soiled ones, as I have done today."—Thomas M. Semmes in the "Century."

FAMILY DEVOTION.

At the close of a lecture in a neighboring town his friends entreated Wendell Phillips not to return to Boston. "The last train has left," they said, "and you will be obliged to take a carriage into the city. It is a sleety November night, cold and rainy, and you have twelve miles of rough riding before you get home." To which he replied, "But at the end of them I shall find Annie Phillips."

This is a beautiful anecdote illustrating his devotion to his invalid wife. —Herald and Presbyter.

LOOKING AHEAD.

Our little people are the life of the Christmas holidays, They begin a long time ahead, to plan for Christmas presents for them they wish to remember, and they lay awake nights turning over in their minds just the things they most desire for themselves. They realize in a wonderful knowing way about the extent of the gifts they may expect and they figure with banker-like minuteness, how much money they will be allowed to expend on older friends. We have in mind a womanly little maiden of about nine summers, who said to her father the other day, "Papa, I know what mama wants for her Christmas present, but I haven't enough money to buy it. Brother and I have each 25 cents, but we need some money, can't you give us what is needed to buy mama this present?"

Papa thought a moment and said. "I will make a bargain with you, daughter, you and brother wash the breakfast and dinner dishes for mama and I will give you the balance needed to buy your present for your mother." The deal was straightway closed and two happy little hearts and four willing little hands are now busy with these household duties.

Right here is a thought, how easy is it to gratify the desires of children and how much of real happiness may we throw into their lives by grasping their suggestions and acceeding to them, and by the way, how much of real practical work can we get out of them by becoming their partners in all laudable little enterprises which while they are small in themselves, small to us, are still big in the minds of the children. This father, by grasping the scope of his little daughter's ambition is giving her happiness and educating her, as well, along the line of household duties.

We make the mistake too often of treating with indifference the behests of our children. We do not enter enough into their lines, we do not become a part of their existence, looking through their eyes, so to speak, out into their world. It is well now and then to turn the hands on the dial of our watch lives back to the time when we were young and to be a child again, just for an hour, that we may study our children in the light we looked at things when we too were boys and girls.

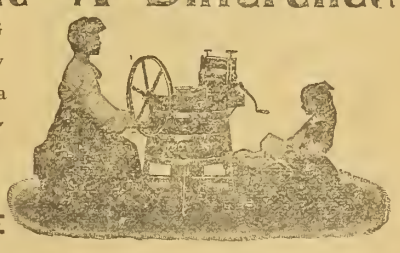
Cookery Recipes

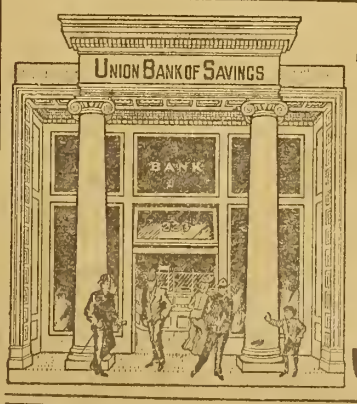
Suet Pudding.—One cup raisins, 1 cup currants, 1 cup finely chopped suet, 1-2 teaspoon cinnamon, 1-2 nutmeg, 1-4 teaspoon allspice, 1-4 teaspoon cloves, pinch of salt, 4 cups flour; mix all together well, and add 1-2 cup brown or granulated sugar, 1-2 cup molasses, 1 cup milk, 1 teaspoon soda, dissolved in 1 tablespoon milk, grated rind and juice of 1 lemon and a well beaten egg. Stir all thoroughly together and steam four hours. Serve with hard sauce—butter and sugar creamed together, and whipped white of egg added, or any sauce preferred.

Oyster Bisque.—A soup relished by those who "do not care for oysters." Heat the proportions of liquid wanted, making it 2-3 of milk and 1-3 of water, with seasoning of butter, salt and pepper to taste; it is best to season lightly, as each person can add seasoning to taste at table; while the liquid is heating, remove all bits of shell from the oysters and chop them fine in the chopping bowl, turn them into the hot milk, add a little thickening of corn starch, let boil about five minutes and serve. A quart of oysters will make "a bisque" nicely flavored for twenty persons.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

Uh! What A Difference
IN THE MORNING
Especially wash day morning when you use a
WHITE LILY WASHER
JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY
WHITE LILY WASHER CO.
1539 Rockingham Rd, Davenport, Iowa



Union Bank of Savings
RESOURCES $3,831,680.29
3% Interest Paid on Ordinary Deposits
4% Interest Paid on Term Deposits
Increase in Deposits since June 30th, 1904 $1,300,000.00.
Safe Deposit Boxes from $4 yearly up.
223 South Spring St. Los Angeles, Cal.

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

People who have been tearing out olive trees because they were supposed not to pay, might profit by the experience of Judge Victor Montgomery of Santa Ana. On his Villa Park ranch the Judge has 130 olive trees, covering less than two acres. A few days ago a Los Angeles buyer came down, looked over the crop and offered $500 for it as it stood.

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

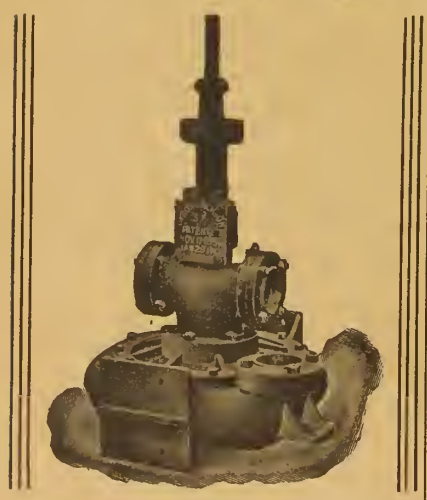
SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal

PUMPS!



Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS
411 Market St. San Francisco, Cal.

THE BEST
IN THE UNION

The California Limited Log-Book:

March 30, 1905.

My work takes me into all the States of the Union and all the Provinces of Canada. My mileage is from 25'000 to 30,000 annually. I have been on about all the first-class trains of all the first-class lines. All things considered I have never seen anything to equal the California Limited on the Santa Fe.

(Mr.) MARION LAWRENCE,
Toledo, O.
(Gen'l Sec'y International Sunday School Association.)

SANTA FE IS THE WAY

Los Angeles Markets.

Los Angeles, October 19, 1905.

Butter.

Butter closed firm today, the official price of 67½c being obtained in some cases, but deals were often made at 65.

B. of T. Creamery, per roll ..65@67½
Valley Creamery, fancy .....65@67½
Coast Creamery ... .55@57½
Fancy Dairy ....50@52½
Cooking 28

Cheese.

Cal. 3-lb hand 18
Cal. Young America 17
California Anchor 16
Northern ....13@13½
Eastern 16
Domestic Swiss 18
Imported do 28

Eggs.

Eggs are practically unchanged, with local scarce and fresh Eastern in keen demand, and an advance in the latter is expected soon.

Eggs, fresh ranch ....37@38
Eastern and Storage .....28@30
Seconds 24

Poultry.

Fryers, 2½ lbs ... . 16@17
Broilers, under 2 lbs, per lb 16
Young Roosters, per lb ... .13
Hens, per lb ... ...12@13
Ducks, per lb ....9@11
Turkeys, per lb ....17@20
Geese 10

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs., per cwt ....$5.50@3.50
Prime Steers, cwt 3.50
Cows, cwt 2.85
Calves, cwt 4.50
Sheep, ewes, per head 3.50
Lambs, do 3.2ɔ
Wethers, per head 4.00

Potatoes.

Northern, per cwt ... ...90@$1.00
Locals, per cwt ....90@1.00
Sweets, white, per cwt .....90@1.00
Sweets, yellow ... .1.00@1.25

Vegetables.

Onions, Silver Skins, sks .....50@75
Onions, yellow, per cental .....75@85
Beets, per 100 lbs 75
Cabbage, per sack ... ...40@50
Cauliflower, per doz. ... .30
Parsnips, per sack ....60@65
Bell Peppers ....3@4
Cucumbers, per box ....25@30
String Beans 2
Wax Beans 3
Green Onions, doz bunches ....20@25
Carrots, doz. bunches 30
Turnips, doz. bunches .....25@35
Garlic ....6@8
Celery, dozen ....30@45
Peas, per lb ....2@3
Egg Plant 3
Chili Peppers, green ....2@2½
Chili Peppers, dry ....15@20
Tomatoes, local . ...25@35
Asparagus ....8½@10
Parsley, per doz bunches.....30@40
Summer Squash, bx 20 lbs ...25@35
Green Corn, per sack .. ..75@1 00
Lima Beans 3
Rhubarb 2½

Citrus Fruits.

Valencias ....$3.50@4.50
Lemons, standard ... .1.50@2.00
Lemons, fancy 4.50
Grapefruit ....2.00@3.00

Fresh Fruits.

Apples, 4-tier Bellefleur .....75@1.10
Apples, 4½-tier Bellefleur .....75@85
Apples, 4½-tier Rhode Is. Grn 90@1.10
Apples, Red Pearmain 1.15
Apples, Gravensteins ... .90@1.10
Strawberries ... ...5@8
Logan Berries ....7@8
Pomegranates, per crate .....50@75
Peaches, per box ... ...75@1.25
Plums .....' ... ...90@1.25
Figs, per box ....50@75
Black Figs ....50@75
Muscats ....85@1.00
Tokays ....1.00@1.25
Cornichons, lb ....5@6
Quinces, per box 75
Pears, Winter Nellis, per lb 3
Muskmelons, large crates ..2.00@2.50
Desert Cantaloupes .....1.00@1.50
Watermelons, doz ... .35@1.75
Guavas, per lb 4

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11c; fy, 8½; ch, 7½.

Peaches, fy, 9@10½c; ch, 7½@8c.

Prunes, Santa Clara, 30-40, 8½c; 40-50, 7½c; 50-60, 7c; 60-70, 6½c.

Loose Muscatel Raisins, 2-crown, 4½c; 3-crown, 5c; 4-crown, 6c.

Beans, Dried.

Limas $6.00
Pinks, fancy ....3.00@3.25
Lady Washington 3.25
Large Whites ....3.00@3.25
Black Eyes ....2.50@2.75

Nuts.

Walnuts, No. 1 soft shells 14½
Do, No. 2 9
Do, No. 1 hard shells 12
Do, No. 2 hard shells 10
Almonds, paper shell..... ...16@17
Almonds, soft shell ....18@20
Peanuts, California, ...6@7½
Peanuts, Eastern ... ...7½@8

Honey

Honey, comb, frames ... .12½@13
White strained, per lb ... .5@5½
Amber 4½
Beeswax ... .23@25

Hay.

Barley, new ... ...9@12
Alfalfa, local new ....11@12
Alfalfa, northern ....9@10.50
Wheat, new ....10.00@11.00
Tame Oat, new ....12@13

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ....$1.40@1.45
Barley ....1.10@1.12½
Corn .....1.25@1.35

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.25
Bran $1.30
Feed Corn Meal 1.55
Middlings 1.40
Wheat ....$1.65@1.70
Cracked Corn $1.50
Corn $1.45
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

Dairy.

San Francisco, October 18, 1905.

Butter buyers were cautious in their operations yesterday, limiting their orders to small parcels to balance immediate requirements, but with supplies relatively light, the general market maintained a firm tone and the quoted prices were well sustained. Offerings of strictly fancy Creamery grades were well cared for, the maximum quotations being easily obtained for the favored marks. Storage Butter held a good buying interest and the prevailing prices were obtained with a marked degree of firmness.

BUTTER—Per lb:

Creamery, fancy 31
Creamery, good to choice ... ..28@30
Dairy, choice ... .Nominal
Store ....Nominal
California storage ... .24@26
Eastern Creamery ....23@26
Eastern, ladle ....20@21

CHEESE—Per lb:

California Creamery, mild, new, extra ....14@14½
California Creamery, mild, new choice ....12@13
Young America ....13½@14½
Eastern ....15 @17

Eggs.

Values for ranch eggs showed no further variance, strictly fancy offerings ruling firm at the maximum quotations, while some easiness was noted in the undergrades because of a slow sale. The call for storage stock was brisk and available supplies were quickly marketed at maintained rates.

EGGS—Per doz:

Ranch, selected large ... .42@42½
Ranch, good to fancy ....37½@40
Store ....Nominal
California storage ... ...26@30
Eastern, extra ... ...27@27½
Eastern, firsts ... ...24@26
Eastern, seconds ... ...22@23

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $5.50@6.50; Fryers, $4.50@5; Broilers, $3@4; Hens, small, $4@5; large, $6@7; Live Turkeys, per lb, 21@22c; Spring Turkeys, 20@23c; Ducks, old, $4.50@5.50; young, $4.50@6; Geese, per pair, $1.75@2; Goslings, $2@2.50; Pigeons, per doz, old, 1.25@1.50; young Pigeons, $2@2.50.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, fancy, 85c@$1.00; common to choice, 40@75c.

Figs—per box, Black, 50c@$1, as to size of package.

Pears—Per box, Bartlett, $2@2.50; Winter Nellis, $1@1.50; other varieties, per box, 40c@$1.

Peaches—Per small box, 75c@$1; carrier, $1@1.15.

Table Grapes—Per box or crate: Seedless, $1@1.25; Muscats, 50@75c, Cornichon, 75@90c; Blacks, 40@65c; Tokays, 50@85c; Isabellas, $1@1.25 open boxes, 65c@1.25, as to variety.

Wine Grapes—Per ton, Zinfandel, $24@28; Mission, $19@23; White, $16@18.

Pomegranates—Per box, 65c@1.25.

Plums, per crate ....75c@$1.00

Prunes—Per box or crate, $1.25@1.50.

Persimmons—Per box, $1.

Quinces—Per box, 60@75c.

BERRIES—Blackberries, per chest, $5@6.

Raspberries—Per chest, $7@10.

Strawberries—Per chest, Longworth, nominal; large varieties, $3.50@4.50; Santa Clara, $6@8.

Huckleberries—Per lb, 6@8c.

Cranberries—Cape Cod, per bbl, $9@10.50; Oregon, per box, $3@3.25.

MELONS—Cantaloupes—Per crate, $1@2.25; Watermelons, per doz, $2@4; Nutmeg Melons, per box, 75c@$1.

Citrus Fruits.

CITRUS FRUITS—Per box: Oranges, Navels, $3.75@4.25; Valencias, $3@4.50; Lemons, $2@3.75; Limes, $4@4.50; Grape Fruit, per box, $2.50@$3.50.

Vegetables.

VEGETABLES—Tomatoes, per box, 30@65c; Green Peppers, per box, Chili,

35@60c; do, Bell, 40@65c; Okra, per box, 60@75c; Beans, per lb, Green, 2@3½c; do, Wax, 2½@3½c; Lima, 3@3½c; Garden Peas, per lb, 4@5c; Cucumbers, per box, 50@75c; Summer Squash, per box, 65c@$1; Egg Plant, per box, 35@60c; Garlic, per lb, 5@5½c; Green Corn, nominal; Marrow-fat and Hubbard Squash, per ton, $7.50@12.50.

ONIONS—Per sk, Yellow, 65@80c.

POTATOES—Per ctl: River Burbanks, 50@65c; Salinas Burbanks, 90@$1.20; Sweet Potatoes, Merced, $1.50.

Dried Fruits.

DRIED FRUITS—Prices for carloaa lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Prices per lb, f o b Fresno, are as follows: Bleached Thompsons, Seedless, extra fancy, 10½c; fancy, 9c; choice, 8c; standard, 7c; Bleached Sultanas, fancy, 7c; choice, 6c; standard, 5½c. Prices are for 50-lb cases, f. o. b. discount of 1½ per cent for cash.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Hops.

The price of desirable old crop is nominal at 12@14c per lb., according to quality.

Beans and Seeds.

BEANS—Prices per ctl for choice selections of new crop stock: Large White, $2@2.35; small, do, $3@3.25; Pea, nominal; Lima, $3.25@3.50; common shipping points, $3@3.25; Red, $2.75@3.25; Pink, $1.75@2.25; Bayos, $2.75@3.25; Blackeyes, $4.25@4.50: Red Kidneys, $3.50@3.75; Horse Beans $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $1.75@2; Green, $1.75@2.25; Field, $1.50@2.

Live Stock.

CATTLE—No. 1 Steers, 6½@6¾c; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers, 5½c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c, Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3¾@4¼c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hay and Feedstuffs.

HAY—Per ton: Wheat, $11.50@16.50; Wheat and Oat, $11@15; Oat, $8@12; Barley, $8@11; Clover, $7@10, Alfalfa, $6.50@9.50; Stock, $5@7.

FEED CORN MEAL—Choice grades, per ton, $30@30.50.

STRAW—Good to choice, per bale, 30@50c.

FEED—Mixed Feed, per ton, $23@24; Calfalfa Meal, per ton, $22.50; in carload lots, $21; Mealfalfa, per ton, $20; in carload lots, $18.

BRAN—Per ton, $23@24.

CRACKED CORN—Choice stock, per ton, $30.50@31.

OILCAKE MEAL—In lots of 20 tons, $33.50 per ton; 10 tons, $34; 5 tons, $34.50; less quantity, $35. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $26.50@29.50.

GROUND BARLEY—Per ton: $24@$25.

COCOANUT CAKE—In lots of 10 tons, $20.50; 5 tons, $21; less quantity, $21.50. Prices are mill rates and are subject to change without notice.

Flour and Cereals.

FLOUR—Net cash. Family Extra, $4.80@5.10 per bbl; Bakers' Extra, $4.70@4.90; Oregon and Washington, $3.80@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice No. 1 Feed, $1.08¾@1.12½; some fancy grades up to $1.13¾; common to fair, $1.03¾@1.07½; inferior grades, 97½c@1.02½; Shipping and Brewing, $1.12½@1.17½; Chevalier $1.15@1.25.

OATS—Good to choice White $1.37½@1.45; Red, $1.35@1.50 for choice to fancy; $1.15@1.32½ for common to fair; Black for seed, $1.60@1.75; lower grades, $1.25@1.55.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large, Yellow, $1.45@1.50; small do, $1.60@1.65; White, $1.40@1.45; Eastern Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.35@1.40.

CITRUS MARKETS

The week shows a gradual cleaning up of old citrus fruit, many Eastern markets being unable to obtain anything like a sufficiency for immediate demands, with New York getting the majority of the shipments. As a consequence prices have remained at a high figure for both oranges and lemons, and shippers still having sound fruit to send are reaping good profits, as the Mexican and Florida new crop is arriving green and selling badly.

New York.

Much deciduous fruit was offered Friday and had a lowering effect on oranges, but the two cars of high grade Valencias that were offered brought satisfactory prices. Some averages were: Shamrock, fy, $7.20; Cambria, st, $5.48; Gem, or, $4.63.

Oranges were quickly taken Monday, the two cars of high grade Valencias selling at record prices. Old Missions were again in the lead, one car grossing $2,927.38, the highest of the year. Old Mission, fy, averaged $8.85; ch, $7.53; Golden Eagle, st, $6.66; Blue Globe, ex fy, $6.15.

Oranges were in good supply Tuesday for this season of the year, three cars being offered, including twenty-eight boxes of "off bloom" navels from Orange, which were of good flavor, and averaged $4.04 per box. Valencias averaged from $3.93 for standard to $7.16 for extra fancy. The lemon market was exceptionally good, extra choice averaging $7.13, while fancy brought $5.70.

Two carloads of Valencias were offered Wednesday, one of Old Missions, averaging $8.78 per box, while the other ran from $5.37 to $6.30.

Chicago.

California oranges were scarce Friday, and Floridas in fair supply. Late Valencias ranged from $4.50 to $6.00. Grapefruit, $5@6. Lemons were in fair demand with light supply. Sound stock, 360s, $5@5.50; 300s, $5.50@6; 400s, $5.50@5.25.

The market Monday was fair with considerable green Floridas on hand. California late Valencias, $5@6; Floridas, ripe, $2.90@3; lemons, $5@6; Messinas, $5@5.25.

Practically no California oranges in the market Tuesday, and late Valencias brought $5@6 per box; lemons, $5@6, as to size and grade.

Very little fruit in the market Wednesday, and that brought from $5 to $6.50, as to quality.

Boston.

The market Friday was bare of oranges, and the one car of late Valencias brought the highest prices of the season, ranging from $2.50 to 7.05 per box, with the supply totally inadequate to the demand.

No oranges or lemons from California were offered here Monday or Tuesday.

One car of Valencias was offered here Wednesday, bringing good prices, $2.75 to $5.95 per box.

Citrus Shipments.

The total shipments to date are 29,468 cars, of which 4336 cars were lemons.

While out Vernon way a few days ago, we dropped in to see Mr. Yarnell. He has a large quantity of seedling walnuts for this year's trade which he told us were not only of good size, but show a most thrifty growth. Of course, as heretofore, Mr. Yarnell will have a full line of deciduous fruits.

At the time of our visit he was busily engaged in making a large number of nursery boxes for several varieties of Eucalypts, which are now in the seed bed ready for transplanting. These he has in large quantities, of the more common blue and red gum sorts, also a very fair number of the ficifolia and others more rare. The ficifolia, by the way, is the variety which has the magnificent scarlet blossoms.

If you are contemplating buying an engine be sure to examine the White & Middleton at Wm. Gregory's 602-606 N. Main St., Los Angeles, or write for circulars and prices. It has many feautures of advantage which are easily shown. Mr. Gregory has the agency for Southern California and Arizona and will be pleased to furnish full information to any one desiring a first class engine. See advertisement in this paper.

Ventura County estimates her bean crop at over 100,000 sacks more than the total yield of 1904.

ORPHANS RECEIVED.

The following named children have been admitted to the Boys' and Girls' Aid Society of South Pasadena, Cal., since the last report:

Jewel Sternberg, Ger., half orphan, light brown hair, light brown eyes, 8 years old; Marian Sternberg, Ger., half orphan, blonde, 2 years old; Albert Williams, Eng., half orphan, brown hair, blue eyes, 8 years old; Bruno Yimez, Mexican, orphan, black hair, black eyes, 9 years old; Louis Yimez, Mex., orphan; black hair, black eyes, 8 years old. Lucia Yimez, Mex., orphan; black hair, black eyes, 2 years old. Emil Stern, Ger., half orphan; brown hair, blue eyes, 11 years old. Laura Hignero, Mex., half orphan; black eyes, black hair, 12 years old. Nora Manes, Amer., half orphan; blonde, 12 years old. Georgie Manes, Amer., half orphan; blonde, 9 years old. Josie Manes, Amer., half orphan; blonde, 6 years old. Claud Manes, Amer., half orphan; blonde, 4 years old. Frank Alfrado, Mex., half orphan; brunette, 8 years old. Neva Jester, Amer., half orphan; brown hair, blue eyes, 8 years old. Edmond Kassold, Ger., half orphan; blonde, 12 years old. Oliver Morgan, Amer., half orphan; brown eyes, brown hair, 10 years old. Florence Mefford, Amer., half orphan; brown eyes, brown hair, 7 years old. Ella Kendall, Amer., half orphan; brown eyes, brown hair, 4 years old. Isidoro Ortiz, Mex., half orphan; brunette, 8 years old. George McAuley, Scotch, half orphan; brown hair, blue eyes, 6 years old. James McAuley, Scotch, half orphan; brown hair, blue eyes, 5 years old. Margaret McAuley, Scotch, half orphan; 4 years old. Frank Flores, Mex., half orphan; brunette, 8 years old. Grace Welty, Ger., half orphan; brown hair, brown eyes, 10 years old. May Welty, Ger., half orphan; brown hair, brown eyes, 12 years old. Grace Parry, Mex., half orphan; brunette, 11 years old. Beatrice Parry, Mex., half orphan; brunette, 6 years old. Emil Robinson, Amer., half orphan; blue eyes, light brown hair, 8 years old. Alfred Robinson, Amer., half orphan; brown eyes, light brown hair, 3 years old. Frank Digiovana, Italian, orphan; brunette, 12 years old.

MARGARET BOYNTON, Supt.

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

WIRE FENCE
CLOTH GOODS · NETTING · WORK · BARB WIRE · HOG · COW · HORSE · SHEEP
WEST COAST WIRE & IRON WORKS
19 FREMONT ST., SAN FRANCISCO

NATIONAL WOOD PIPE CO.
MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR
WOOD PIPE
WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE
Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

MALTHOID ROOFING
PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.
THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

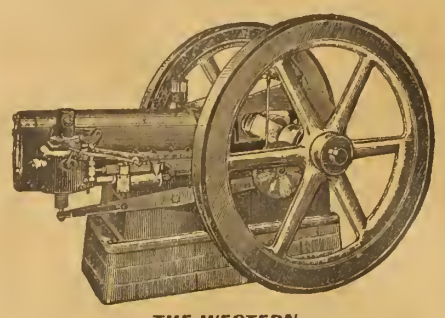
RUBEROID ROOFING
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers mention Cultivator.

WATER IS KING
pump your own water by cheapest known method. Write A. T. Ames, Galt, Cal. for catalogue

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST STRONGEST SIMPLEST

MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P.

CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL

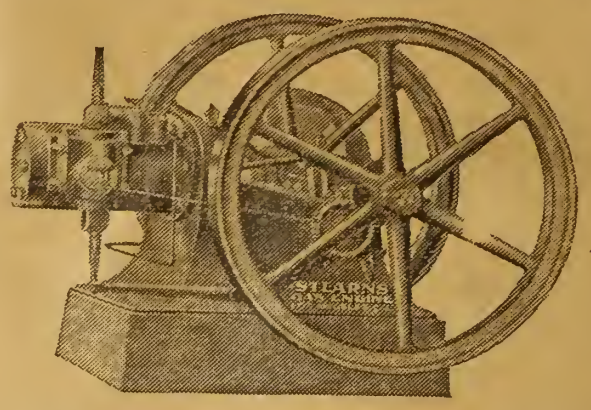
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.

908 to 932 No. Main St., Los Angeles, Cal.

SEND FOR NEW CATALOGUE

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

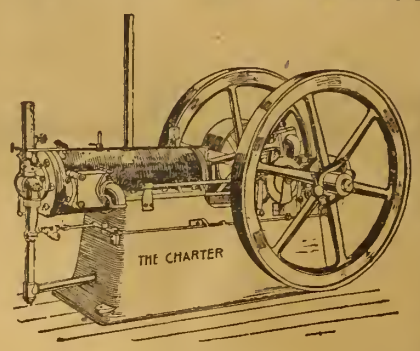
Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

ECONOMY IN RAISING WATER

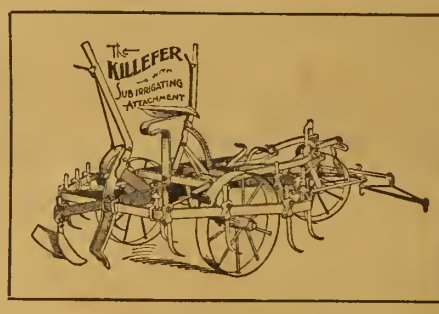


Is possible with a reliable engine. We have a good gasoline engine for little money. Competent engineers at hand to give advice on installation. Write us for information on Gas, Gasoline and Steam Plants.

Pacific Coast Mfg. Co.

126-128 So. Los Angeles St, Los Angeles, Cal.

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

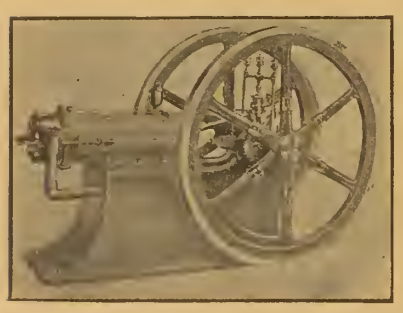
Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLIFER-GRIFFITH MFG. CO.

2036 Palmetto St. Los Angeles, Cal.

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

Wm. Gregory

602 North Main St. Los Angeles, Cal.

For Anything in the Plow Line ask us about the

SYRACUSE CHILLED PLOW CO.'S GOODS

Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the

FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.

Have you seen the "New Harrison Wagon?"

L. A. MARTIN & SON

129 Wilmington St. Los Angeles, Cal.

Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

When writing advertisers mention Cultivator.

When writing to Advertisers Please mention Cultivator

California Cultivator

LOS ANGELES SAN FRANCISCO

OCTOBER 27, 1905

A SEMI-TROPIC GARDEN.

1. Banana. 2. Bread Fruit. 3 Paw-paw. 4. St John's Bread. 5. Mango 6. Pineapples. 7. Ten-Year Seedling Orange.

TROPICAL FRUITS FOR CALIFORNIA.

There are many so-called tropical fruits which may be grown, in favored spots, well toward the northern line of this State. The rapid development of the citrus industry has tended to obscure the importance of this class of fruits, but in many sections the ranchers are experimenting quite generally along these lines and in the near future we expect to see many new home-grown fruits which heretofore have been shipped in from distant parts.

CIRCULATION EXCEEDING 10,600

You You Yours

Your Business to Consider

A ton of Shorts or Bran or Chop Feed contains not much more than 180 pounds of digestible protein; while a ton of COULSON'S EGG FOOD contains over 300 pounds of digestible protein.

Now as "protein" is one of the most valuable parts of the feed for making eggs, you can readily understand that you will get more results from one ton of COULSON'S EGG FOOD than you would from a ton and a half of either shorts, Bran or Chop Feed.

Therefore, it would actually be cheaper for you and prove more profitable for you if you should feed your pullets and laying hens COULSON'S EGG FOOD every day.

Unless a food, however rich in protein, is relished, it loses much of its value.

Therefore, we make COULSON'S EGG FOOD in a condition that fowls will relish it.

They eat it greedily—THEY JUST GO FOR IT—because it tastes good to them and they like it so.

If you should feed only grain and a mash composed only of Shorts, Middlings and Chop Feed, etc., without any extras, in the way of animal foods, your average profit on your entire flock would probably not average over 75c per hen, per year.

If you should mix Beef Scraps, Meat Meal or Meat, etc., with the other feed, the profit might be increased to $1.00 per hen per year. If you should feed the hens COULSON'S EGG FOOD every day, a food that is just right, the hens will earn you a profit averaging from $1.25 to $1.50 per hen, and sometimes more, per year.

Now, if the above is true, and it undoubtedly is, one would do BETTER BY USING COULSON'S EGG FOOD, and save a lot of worry and bother of mixing feed, etc.

(1¾) Tons of Shorts at $25.00 per ton would cost $44.00.
(1¾) Tons of Bran at $24.00 per ton would cost $42.00.

Therefore one ton of EGG FOOD is equal to $44.00 worth of shorts; it is equal to $42.00 worth of Bran, or $45.00 worth of Chop Feed or $50.00 worth of Corn; and it is better because it also keeps the fowls in more active and healthy condition.

COMMENTS:

184 EGGS PER HEN

Henry Graff, a prominent poultryman near Petaluma made a flock of 1400 hens average 184 eggs apiece during the past year.

THAT'S GOING SOME

Considering the large number of hens,—as there are always some hens that are not layers.

They were fed once every day on COULSON'S EGG FOOD.

I have fed your Egg Food for the past three months to my flock of 200 pure-bred Brown Leghorns with the best results. I believe it HELPS THE FERTILITY OF THE EGGS, as I have had a higher percentage of hatches than heretofore, and can cheerfully recommend to all poultrymen.
W. E. MERCER, Ventura, Cal.

This is the first season I have used COULSON'S EGG FOOD and I consider it excellent for the purpose. Since August last I have had MORE THAN DOUBLE THE NUMBER OF EGGS I ever had before from the same number of hens. A. A. HENRY, Rumsey.

I have fed your Egg Food and had good results.
S. M. BUTLER, (Arrowhead Strain B. P. Rocks.)

I find your Egg Food proves to be just what you recommend it to be.
E. M. SHELFORD, Cloverdale, California.

Have been using your feed since last August, 1904, and have never had such a healthy, happy lot of hens before. It carried them safely through the molt without any sickness and they are laying well at present with eggs at 35 cents a dozen.
MRS. E. M. HICKS.

Full particulars of your dealer. If he does not keep COULSON'S FOODS, etc., give us his name and we will tell you where and how to get them, and save you money.

A Sack of Coulson's Egg Food

The World Renowned
COULSON'S EGG FOOD

A Balanced Ration or Mixed Feed for Pullets and Laying Hens

Intelligent Feeding.

Feed the hens Coulson's Balanced Ration Egg Food. You can buy it nearly as cheap as wheat, and it will make the hens lay better than any other food.

A hen is simply an egg-making machine. Feed her properly and she is bound to lay eggs regularly. Feed as a mash one meal a day. Simply wet it up with a little water or skim milk, and it's ready to feed: it saves you time; it's the busy man's friend. Feeding a properly balanced ration the year round will yield double the profits if you feed COULSON'S.

Take the sack of Coulson's Egg Food, dump some of it out in a box—pour some water or skim milk on it. Stir it up so as to make a dry mash, (meaning not too wet), then pour it into the feed troughs for the growing pullets and laying hens. They should be fed COULSON'S one meal every day.

The supreme test of a hen is her Egg-Making Capacity. A good hen should lay about 200 eggs per year, which she will do if fed regularly on COULSON'S EGG FOOD.

Cut out this slip. A handsome needle case free.

What poultry have you? .....

Do you use Coulson's Foods? ..... If so, what kinds and how long? .....

What results have you had? .....

When will you need a new incubator? .....

Have you had samples of Coulson's Foods? .....

Does your dealer keep them? .....

Your dealer's name? .....

And address .....

Your name .....

Address .....

(On return of this properly filled out we will mail you a valuable and handsome needle-Book. If a copy of our new 80-page Catalogue and Egg Record is desired, send us 5c postage.)

$500.00 to be given away. Look for particulars in every 100-lb. sack Coulson's Special Chick Feed.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 17 LOS ANGELES, CAL., FRIDAY, OCTOBER 27, 1905 Subscription $1 a Year

The World's Largest Celery Fields

Vast Acreage Once Considered Nearly Worthless Now Among the Most Profitable on the Pacific Coast

Down in Orange County between Santa Ana and the ocean lies the largest, most productive, most profitable celery fields of which any record exists. But a dozen years ago this vast tract was nearly useless, furnishing a scanty crop of stock forage at such seasons as it was dry enough for cattle to roam thereon. For a large part of the year much of it had water standing on or very near the surface.

When it was discovered that wild celery, so common in California was growing all over the tract in unusual luxuriance, it was realized that here was an unusual opportunity. We may say in passing that wild celery differs in no wise from the cultivated sort except the improvement by the enterprising horticulturist. Apium graveolens, the wild plant, has by selection been brought up to its present standard of perfection by many years of careful selection.

When celery of commercial value was first tested on the drier portions of this territory and its wonderful possibilities demonstrated, the problem of reclamation became a serious one. First open ditches were resorted to, but as the area of celery culture extended, under-drainage by tiles became necessary. The last few years has seen train loads of tiles placed beneath the surface and the work still progressing. By the system in vogue the water is absolutely under the control of the growers. When the drains are opened, the lands drain until the water is three or four feet below the surface. When drains are closed the water soon rises to the surface, giving the most effective mode of irrigation ever practised by man. While further drainage will add a few more acres to the celery growing area, the soil suitable for its most successful culture is limited and the future will see little addition to the present acreage. Future development will lie in getting the better returns from the lands already under control.

Celery is first sown in beds—either broadcast or drilled as the grower prefers, beginning the first of April and continuing up to the first of July. Celery sown the first of April will be ready to harvest in November, while that sown in July will not mature until February or March, thereby enabling the growers to ship celery from the first of November to the first of April. About the 15th of June transplanting commences and continues until the 15th of September. The celery plants are pulled out of the beds by laborers who prune the tops and roots properly. The roots should be left about two inches long, and after being pruned are placed in tin pans in about one inch of water. The beds should be well irrigated before drawing the plants, and the ground in which the celery is transplanted should be well worked and moist.

It is set out in trenches made by an implement designed especially for the purpose. Rows are drawn four feet apart, and the plants are set six inches apart in the trenches as soon as they are made. In about two weeks after celery is planted, the dry dirt is crowded away with a most valuable implement made V shape with two steel blades, each three-eighths of an inch thick, six inches wide and four feet long. The implement is six inches wide at the mouth and three feet at the rear, is drawn by two horses and cuts all weeds between the rows, besides pushing the dry dirt from the celery.

AN ORANGE COUNTY CELERY FIELD.
The Finished Product—a Week Before Shipment, Oct. 20th, 1905.

The plants are kept thoroughly cultivated from this period until the time comes for hilling up, which begins about October 15, and continues until the end of the season, as celery is much better when banked only a few weeks prior to marketing. Hilling or banking up the celery is begun by working the dirt gradually to the celery till it is nearly buried.

In about three weeks after the celery is hilled up it is ready for the market.

The roots are cut with a machine made for this purpose and drawn by two horses. The laborers take the celery up in their hands and very carefully break the undesirable leaves off, trim the roots properly and pack it in crates, or tie in bundles of twelve, as may be required. It is then immediately placed on wagons, hauled to the packing house, packed securely in refrigerator cars, and is ready for its eastern journey.

Celery is shipped in crates, 22x24 in. base, which holds six to eight dozen of celery, according to size. An average crate will weigh about 145 pounds, and 160 crates make an average carload. Some Eastern dealers prefer the celery shipped in bulk or on decks built in the car. This is a much cheaper way to ship, and is claimed by some to be just as safe. In shipping in this way, three decks are built in the car, and the celery is tied in bunches of one dozen each and stood upright with roots resting on the decks. By this method three or four hundred dozen more celery can be packed in a car.

Celery is shipped to all the principal cities of the United States and Canada, and carries successfully, especially under refrigeration. All celery is sold f. o. b., none being consigned. It is all handled at present by the California Vegetable Union, who not only control the Orange county output, but that of Central California as well. The latter consists of 300 acres at Jersey Island and the returns are somewhat problematical, as the latter section is not so suitable for celery growing as Smeltzer and vicinity.

Should it develop later in the season that too much celery has been grown for the market, such surplus will be plowed under, as this is a much better plan than to ship the celery and demoralize the market. Plants are in fine condition at the present time, and all these point to a splendid crop for the present season. Shipments began the last week in October and it is expected the season's output will total 2000 carloads. The 1905 acreage is about 3300, as against 3100 for last year.

New sorts are constantly being tried out, and no less than a dozen are under experiment this season. In the earlier days of the industry White Plume was thought the best, but of late the growers have largely discarded that variety for Golden Heart and the latter promises to be the leading sort in the future.

The California Vegetable Union has a leverage on the railroad companies that is a great advantage to the growers. They do not fail to use that leverage in shipping the output. Where stock is damaged the company is able to adjust the damages more satisfactorily than could an individual. Inquiry reveals the fact that special trains of celery have been started from Smeltzer and run through to Chicago and New York without change and on fast time. This special fast service has been of immeasurable value in putting the best celery in the world into the best Eastern markets on quick time and in the very best order. The last annual report also shows that a special representative located at El Paso to examine each car of celery in transit has been of great value, inasmuch as a close tab was kept upon the product while en route, and to see that there was no delay at that point.

The officers of the association state that they have met with much sharp competition from all parts of the United States, and urge upon all growers the urgent need of raising the best product and putting it on the market in good condition. They also urge that all growers stand close together, work hard to one end, that being to improve the product and put it upon the market in good form. Particularly was the point urged to raise the best stock, meanwhile urging all growers to stand close together in the interest of the greatest and most profitable vegetable grown on the continent. The last report reveals the following facts:

That during the season of 1902-3, there were shipped from this locality 1179 carloads of celery; for the season of 1903-4, 1554 cars; and for the past season, 1904-5, 1800 cars. The past season has been the best yet, so far as celery production is concerned, yielding this people over $400,000 clean hard cash in hand.

California Horticulturally

By John Isaac, Sacramento, Cal.

QUARANTINE AGAINST FLORIDA ORANGE STOCK.

With the approval of Governor Pardee, Horticultural Commissioner Cooper has declared a quarantine against any citrus fruit or nursery stock from Florida coming into this state. This is on account of the prevalence of the White fly, (Aleyrodes citri), which is doing much damage in that state. This pest has not yet obtained a foothold in California and if any action on the part of the Horticultural Commissioners can prevent it, it will not for some time, if ever, It is certainly a pest to be dreaded and one which, once introduced, would do inestimable damage to the greatest of our fruit crops. We have a number of species of Aleyrodes common to our state, but these are innocent in comparison with the citri. This family is an interesting one from the fact that it is a sort of connecting link between the scale family and the aphids. In its larval stages it has all the characters of the scales, the great difference being that in its mature form both the males and females are provided with wings, while in the scales the males only are so provided, the females rather degenerating until they are little more than egg receptacles for the next generation. The group has never been properly studied by any of the entomologists, and there is still very much about it that is unknown. Enough is known of this one variety, however, to appreciate the necessity of keeping it out of our orange orchards if we would not have a pest that would prove second only to the cottony cushion scale.

* * *

CALIFORNIA, THE WORLD'S INSTRUCTOR.

The wonderful success achieved in horticulture by our state has resulted in her taking the foremost stand among fruit growing nations of the world and her methods are eagerly studied by other parts of the world in which fruit is or can be grown. South Africa has turned to us for instruction, and has not only sent us students but has taken Californians and put them in charge of orchards, in order that our methods might be established there. The latest visitors who have come here for this purpose are James H. McCall, a member of the Australian parliament for twenty years, and Geronimo L. de Galvez, delegate of the Minister of Agriculture, Industry and Commerce of the Argentine Republic. Both of these gentlemen have been making a thorough investigation into our methods of growing, packing and marketing fruits in the interests of their respective countries.

* * *

CORK OAKS AND CAMPHOR TREES.

Many of our state papers are advocating the planting of groves of cork oaks and camphor trees, stating that the young man who does so will find himself with a competence in his old age. The advice may be good, but it is questionable whether any young man in California will take it. Our California young men are not built that way. They want returns for their labors while they live, and are not content to plant and then watch and wait for years for a problematical income, and then, after waiting an age for a crop, they would have to find some way of harvesting and disposing of it. Camphor and oak may do for the slower and more patient countries where one generation plants that another may gather, but not for California. Just think of a man planting such a crop and waiting for old age to come to enable him to gather it, and should he die before it was ready—for all people do not become old—what a world of fun he would have missed. Better stick to fruit and get the first crop in two to four years and enjoy the income as it comes in.

* * *

THE NEXT FRUIT GROWERS' CONVENTION.

It has now been definitely settled that the next Fruit Growers' Convention is to be held at Santa Rosa, Sonoma County, commencing on Tuesday, December 5th and continuing until the following Friday. Among the more interesting features of the meeting will be the consideration of the pear blight, which has obtained so serious a foothold in the pear orchards of Northern California. Prof. Waite, the expert on this disease of the Department of Agriculture, will come from Washington on that occasion for the purpose of demonstrating methods of fighting this disease and keeping it in check. There will be an entomological day devoted to the consideration of insect pests and their control, in which the County Horticultural Commissioners will discuss various matters connected with their work. Arrangements have already been made for reduced hotel rates, railroad excursion rates for attendants, trips over the electric lines, and various means of entertaining the visiting members. This convention will be one of the most important and interesting ever held, in all the 31 years they have been running.

* * *

EXAGGERATED STATEMENTS.

The tendency of the daily press to sensationalism does much harm, in that it sets standards which it is impossible to reach, and raises hopes which it is impossible to satisfy. I notice in many of the papers that the purple scale is doomed and that it will soon be a thing of the past, and because Compere is now searching for a parasite to prey upon it. The old lady's recipe for cooking a hare is very applicable in these cases. Said she: "First catch your hare, then skin your hare." In this case we hope for an efficient parasite, and are trying to catch it, but have not yet succeeded in this. The fact is that there is a parasite of the purple scale in China. That much we know. We are trying to get it, then we have got to transport it here, and then perhaps it will not do so well here as it does in its native land. There are many contingencies which may arise, and very many obstacles to overcome before we can safely say the purple scale is doomed. We may make this statement in regard to the black scale as safely as in regard to anything, but even here there will be outbreaking of the pest. We cannot even say that the codling moth is doomed. But we can say that we have a parasite which is working on it, and which so far promises well. We can tell better about it in four or five years from now, and it is always safer to tell what we have done than what we are going to do. There is one thing however, which is certain, and that is that there is a check on every form of life. In the insect world this check consists largely of parasitic insects, and it is profitable to search for and introduce this class of insects, even though ninety-nine in a hundred are not satisfactory. An effective check on any one of our troublesome species is of infinite value. Who can compute the value of the Vedalia cardinalis or the Scutellista alone? Every new species brought here will not be successful, and it is to be regretted that exaggerated press reports raise our hopes so high that we are disappointed, as such disappointment often results in a lack of faith and a revulsion of feeling and a good cause suffers.

* * *

END OF THE FRUIT SEASON.

The fresh fruit season is now practically at an end, for while there are still some shipments of Tokay and Cornichon grapes going forward other fruits have stopped. The season has been an especially favorable one for fruit shipping and for the shippers, for while the crop of most varieties has been light, prices have been so high that, even with reduced output, the growers are in advance of most seasons, while the shipments have been the heaviest on record, very far exceeding those of last year, which was the banner year until the present.

GUARD THE FORESTS.

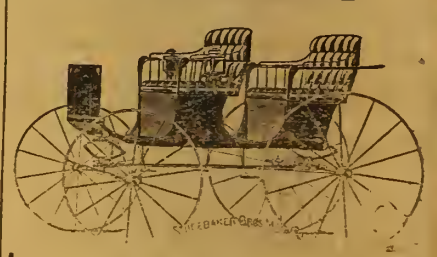
Since California surpasses all other States in the extent, diversity and magnificence of its forests, and in the importance of the varied industries dependent upon them, it has a correspondingly vital interest in forest preservation. That the welfare of every community is dependent upon a cheap and plentiful supply of timber, and that forests are the most effective means of maintaining a regular stream-flow for irrigation and other useful purposes, are recognized principles of public economy. In California their significance is usually great, for the timber products of the State afford a revenue of $15,000,000 annually, besides furnishing employment to many thousands of men and directly benefiting every industry, while the very foundation of agriculture, fruit growing and the value of residence property is the supply of water for irrigation. It is not theory, but a fact well established by bitter experience in this State as well as throughout the world, that forest destruction is felt by every person and interest, and that recovery is slow if not impossible.

While unwise use of the forest resources is responsible for much unnecessary destruction, and there is need for reform along this line as fast as experience and better market conditions permit, the great source of injury is forest fires. The fire question in California is so serious, far-reaching in its bearing upon the welfare of all, as well as on that of those whose lives and property are actually endangered or destroyed, that it is a matter of personal and civic duty for every citizen to give it his attention. While probably all admit that forest fires are undesirable, few realize their annual number and extent. The reported fires are few compared with those which burn unrecorded, smaller, perhaps, in individual importance, but aggregating an immense loss to the State.

To preserve and improve the remaining forest resources for the fullest use, and to protect the indispensible water supply, have been undertaken by the State itself through the creation of a Board of Forestry, the appointment of a State Forester, and legislation against the careless use of fire and encouraging the conservative handling of timber and wood lands. But no successful reform was ever accomplished by legislation alone. If California is to avoid the distress which inevitably follows the loss of timber and water, it must be through the co-operation of her citizens, and this should be freely given for reasons of private interest, public duty and State pride. You can render your community no more valuable service than the use of all your influence toward the enforcement of the Forestry laws and instructions. It will also be highly appreciated if you will assist the State Forester and the fire wardens by reporting violations and by any information or suggestions upon forest matters.

It is not the intent to make the law burdensome. While every reasonable step will be taken to protect the California forests, due allowance will be made for established customs and conditions.

Studebaker Vehicles



Stand Without an Equal

They are constructed throughout of the best material, by skilled workmen in the largest vehicle factory in the world. The wise buggy or wagon buyer will always purchase a

Studebaker

because they last longer and give better service than any other make.
We carry a complete line of the famous

Studebaker

Buggies, Runabouts, Phaetons, Farm Wagons or Harness

You cannot make a mistake in purchasing a

Studebaker.

Buy the best, the cheapest in the end. For economy, durability, strength and ease of running the

Studebaker

leads all other makes. Those contemplating a purchase should send for our catalogue or call and see us. We are local agents.

Newell Mathews Co.

200-202 No. Los Angeles St.
Los Angeles, California

A SUCCESSFUL WOMAN RANCHER.

By Mrs. M. E. Sherman.

In the year 1884 the failing health of my father brought the entire family to California for a permanent residence. Leaving Philadelphia, with its busy social life, and the opportunities of a city, the change to California was a happy one.

My father and mother, believing it best for girls to be independent, gave me some money to use as I thought best. After looking around for an investment, I purchased a section of land five miles from Fresno, intending to sell it again when values increased. The land was raw and unimproved with the exception of ten acres of wine grapes, four acres of old vineyard of mixed varieties and thirty acres set to almond trees.

After a year of wheat planting the spirit of the neighborhood prevailed and a forty-acre muscat vineyard for raisin making was planted. This was steadily added to until there were two hundred acres of muscats. Meanwhile Bartlett pear, olive and peach orchards followed and then a table-grape vineyard. The raisin-grape vineyard afforded sufficient revenue to carry the expenses of the young orchards until they themselves became profit-yielding.

Sending East for books, I took up butter making, and soon found that I had as well to study cows, stables and the cleanliness of the dairy. The alfalfa taste which in some places is noticeable, had to be kept out of the milk as it was impossible to remove it with any means I could command. This taint was conquered, but led into the study of bacteriology as far as making cultures, to find where the control was needed, and of the cultivation of the bacteria essential to high flavor. The knowledge that we had good butter on our table quickly spread among friends and they begged for a roll or two a week.

I was thus carrying on butter making on a small scale with the usual farm outfit when the need came for more money to carry out my larger plans and the surest source of income on the ranch proved to be the dairy. More cows were secured, a small separator and a Babcock test followed. As cows were scarce, two carloads of Arizona nondescripts were purchased, and milking time for the next month or two was a Buffalo Bill show. The dairy proving a success, fifty head of registered Holstein yearlings were brought from the East, and a steam plant with large separator and power churn were added. This was the first alfalfa creamery and won the first gold medal ever given to alfalfa butter. The two hundred cows paid in seven years an average of $51.65 a year per cow.

With the registered cows came the fascinating study of breeding to increase excellence, to build constitution and to eliminate weakness and defects. The success of this study has been shown in the results I attained, for in the third generation came Juliana De Kol, the world's prize milk and butter producing cow, which the California Promotion Committee sent to the Buttermakers' Convention held in Chicago during the World's Fair. Fidessa, a winner at Sacraemnto for several years, and over twenty other cows with records of over twenty pounds of butter per week were bred here on my ranch.

Another success has been attained with table grapes. By careful selection the Emperor has been developed into a heavy bearing vine with large highly colored fruit in magnificent bunches. When these grapes were first shipped from the ranch the packing was done in Fresno, where the large bunches were cut to fit small baskets, eight of which were put into a crate. Their value for table use was almost completely destroyed, so I opened a packing house at the ranch and by laying down the sides of the small baskets managed to pack the bunches uncut. The next season larger baskets were ordered, and all the crate stock was ordered for single crates. Ribbons left from the previous season's raisin pack were used for decoration, and they sold at once for a dollar more a crate than the rest of the pack. Each year we pack with the same care and now after having heard that the large package was often more than a family cared to buy of high-priced fruit, I tried one year sawing some crates in half, thus making a smaller package. This also sold well, so that we try to place in each car seventy-five half crates. The returns from the Emperor vineyard have always been good, ranging from $10,000 to $15,000 a year after freight refrigeration and packing material have been paid for. Like the care of the cows, this has been a most interesting work, for in all life the same laws prevail, and if the grower does not constantly build up the strength and carefully select his vines and trees there will be only a minimum of success. Pedigree is as important in a plant as in an animal. In the vineyard, fertilizing and pruning, spraying and clean cultivation put the vines in the best condition for bearing. Quantity of fruit must give way to quality, for quantity makes pigs' feed, while quality makes money.

My olive orchard also has a pedigree, being only two generations from the trees of an old mission. We had a friend who grew the trees from cuttings from the bearing wood of his own orchard. At four years of age the trees bore a half crop, and have not failed since. The olives are so large and fine that the first two sizes have been sold under a five years' contract for $75 to $80 a ton f. o. b. Fresno. The smaller olives are pickled for local trade and oil is made that sells readily in the East in case lots among private customers.

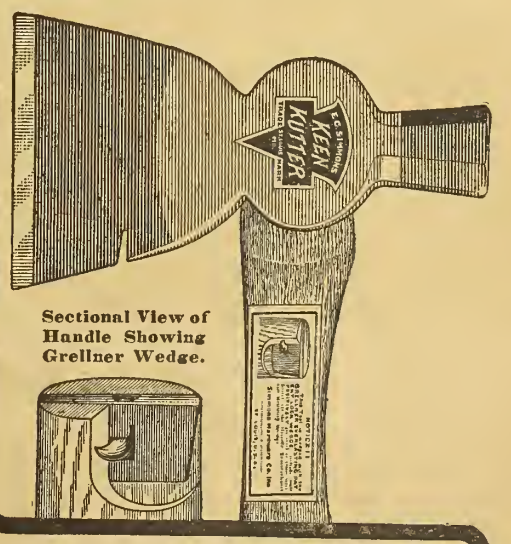
These are successes, yet without a few failures they would be less sweet. The beautiful Bartlett pear orchard, just when at its best, and when the brand had built up a reputation for good packing and prices were increasing, the blight came. Though each winter, in hopes of saving at least a portion the blight was carefully removed under antiseptic conditions, yet each year the trees had more cut off than the summer growth renewed, until only pitiful stumps remained and these were finally cut up for fire wood. The second failure was the peach orchard. It bears well, but "haste made waste" and the trees were foolishly bought instead of being grown and budded to order. They were labeled as Early Crawfords, Mui,rs and Orange Clings. How many varieties of peaches are cultivated I do not know. I feel sure, however, that I have every one of them in the forty acres.

Now, I have tried to tell you about a woman's experiences in ranching. I find ranch life full of joy. To all it is not given to create pictures on canvas or to enrich literature. These are special gifts. But who cannot plant a tree and make a picture against the sky? My memory calls up the picture of the Fresno plains of twenty years ago, covered with yellow stubble, the sun burning down and spirils of dust whirling up like dancing dervishes, the only motion in the tense stillness. Today, my vines and trees spread a living green over these plains, the birds sing, and the cool sweet wind comes over the alfalfa fields where the cows are standing knee deep in the purple tinted greenery.

AMOUNT OF HONEY PRODUCED IN THE UNITED STATES.

At the Philadelphia convention of the National Bee-keepers' Association a few years ago I gave a set of figures going to show the approximate amount of honey annually produced in the United States. This estimate was based on the number of section boxes made and sold by all the manufacturers in the United States, for during that year we learned the entire output. Then the amount of goods sold in various parts of the country would also give something of an idea of the amount of extracted honey produced. Well, this estimate, without going into details as to how the results were arrived at, show that there was 50,000,000 lbs of comb honey and 100,000,000 lbs of extracted, or a total of 150,000,000 lbs all told. The actual valuation of this, conservatively figured, would be about $10,000,000. In answer to a correspondent in our issue for Feb. 15, page 155, I repeated these figures, and the editor of the Pacific Bee Journal compared them with the United States census report of the annual honey crop. He has prepared a new set of figures by putting them in such a shape that they will be more easily understood. According to his way of figuring, my estimate of 150,000,000 lbs of honey would make 7000 carloads. The United States census report on the same basis would make 6667 carloads, or only 333 less than my estimate. These figures are significant when we come to consider the fact that they were arrived at through totally different and independent sources—significant because they are so close together. But my estimate, as made three years ago, was figured on a very conservative basis; and the United States census report of 1899 probably did not take account of all the honey produced. In that, as our readers know, I have questioned the accuracy of the report. But either way we figure it, both estimates are under the actual output of honey in the United States at the present time. I think we should be safe in concluding that we may estimate that the actual product of this country is not far from 10,000 carloads. This seems like an enormous amount of honey; but if one will go through some of the large supply manufactories of this country, and look over their order books, he will have no occasion to doubt these figures—E. R. Root.

Long Lived Tools



Sectional View of Handle Showing Grellner Wedge.

Keen Kutter quality tells in the long life of Keen Kutter Tools as well as in better work and greater satisfaction. It is not an unusual thing for Keen Kutter Tools to be passed down from father to son, so long do they last.

The long life of Keen Kutter Tools compared with the short term of service of inferior brands makes Keen Kutter Tools by far the least expensive tools that you can buy. The

KEEN KUTTER

trademark covers every kind of tools so that you may always be sure of highest quality by insisting upon Keen Kutter Tools.

An example of the Keen Kutter excellence is found in Keen Kutter Hatchets and Handled Axes. These are made of the highest grade of steel, on the most approved lines, and by the best workmen. Every Keen Kutter Hatchet and Axe has the handle wedged with the Grellner Patent Everlasting Wedge which positively prevents the head ever flying off or working loose, and is sharpened ready for use. These are exclusive Keen Kutter features.

E.C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK MO.

Some of the other kinds of Keen Kutter Tools are: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Eye Hoes, Trowels, Pruning Shears, Tinners' Snips, Scissors, Shears, Hair Clippers, Horse Shears, Razors, etc., and Knives of all kinds.

If your dealer does not keep Keen Kutter Tools, write us and learn where to get them. Send for Tool Booklet.

Every Keen Kutter Tool is sold under this Mark and Motto:

"*The Recollection of Quality Remains Long After the Price is Forgotten.*"

Trade Mark Registered.

SIMMONS HARDWARE COMPANY,
St. Louis, U. S. A. 298 Broadway, New York.

SHIPPING FRUIT IN VACUUM.

Editor California Cultivator: Having seen a cutting in an English paper to the effect that a new process of shipping fruit in vacuum, such as berries, cherries and such highly perishable fruit, has been tested with perefct success in California and that the process will come into extensive use in 1906 in shipping fruit to the English markets, I should feel very much obliged if you will kindly give me any information on the subject that you can, and inform me if there is any truth in the report. Thanking you in anticipation.—L. S. W., Lindsay.

Experiments in packing fruit have been carried on by experts for several years past, and various methods have been tried and most of them abandoned, but among many other experiments was one in which fruit was packed in air-tight packages, the air being entirely exhausted and replaced by nitrogen gas. Fruits packed by this method have kept for months and the tenderest fruits have shown no signs of decay after having been packed for long periods.

Theoretically the plan has worked excellently, and on a small scale has given good satisfaction and been apparently successful. The result of these experiments was the organization of a company to do the work on a wholesale plan. This company is known as the "American Fruit Company," and comprises some of the leading fruit growers of California. It has erected a packing plant at Antioch and has been experimenting in packing fruit in large quantities this season. In handling matters of this kind, there is a world of difference between the work when carried on in the laboratory and in the factory, and a great many difficulties have been met with and many of them overcome during the past season, but so far the process has not been sufficiently perfected to make it a pronounced success commercially. The company having the matter in hand, however, is still working and overcoming one difficulty after another and there is little question as to its ultimate success.

The difficulty so far with the process has been in manufacturing absolutely pure nitrogen gas, as a small percent. of the air left in the packages or mixed with the gas or any impurities combined therewith, will militate against it and the fruit packed in impure nitrogen is subject to decay. If the process proves successful, as it probably will, as the parties having the matter in hand will not give it up when they are on the verge of success, it will mean everything to the fruit growers of California and to all other shippers of perishable fruits, as fruit so packed can be kept for an indefinite period and shipped to the ends of the earth. Fruit packed in nitrogen gas has been kept for months without showing the least sign of decay and can be stored in any atmosphere and the packages opened as wanted. Deciduous fruits by this means can be placed on the market any day in the year. The process can also be applied to the storage of fresh meats, eggs, butter, and all other perishable products, and by precluding contact with the atmosphere, the germs of decay are removed and the surrounding gas fills the vacuum and prevents contact with the atmosphere with its putrifying germs.

SAY THE LYE PROCESS SPOILS PEACHES.

A New York dispatch under date of October 1st to the Chronicle says: Several carloads of the 1905 pack of California canned peaches have been rejected here recently by jobbers on the score that the fruit was not up to the contract standard. The imperfect condition of the fruit is attributed to the "lye process" used in peeling peaches.

This process, it is stated, is used by several packers on the coast and consists of spraying a solution of lye upon the fruit, which eats away the peel and saves the cost of peeling incidental to hand peeling. After passing through the first stage the fruit is cleaned mechanically, and those who favor the process say it is none the worse for the operation.

The fact, however, that samples drawn from the pack of several packers by jobbers here on recent deliveries show the presence of lye or other "biting acid" is taken as as an indication that the process is imperfect. One jobber, who rejected a carload, said, the fruit he sampled was so strongly impregnated with lye as to cause a sharp biting of the tongue. This, he believed, would not have a very beneficial effect on the stomach of the consumer.

EXPERIMENTS ON SOILS.

Under the direction of the Purdue experiment station of Indiana the most comprehensive and far-reaching crop and soil experiments ever undertaken in the middle west will be started within a week in Scott and Pyke counties, and will not be completed for ten years, the experiments lasting until 1915.

The experiment, which is made possible by the $25,000 appropriation of the last legislature, will be one in the rotation of crops, and for that reason it will take several years to determine the effect of the rotation on each crop raised. The rotation decided on for the experiment is corn, wheat and clover, in the order named. In each county, sixty-six experimental plots will be planted.

These sixty-six plots will be divided into three sections of twenty-two plots each, and on these twenty-two plots will be planted corn, wheat and clover. The first year No. 1 will be planted in corn, No. 2 in wheat and No. 3 in clover. In the corn section there will be twenty-two plots, and on these different brands of fertilizer will be tested. The same thing will be done on the twenty-two wheat plots and on the twenty-two clover plots.

Professor Arthur Goss, director of the experiment station, and the leading authority on crops and soils in the State, will have charge of the experiment, but will send college experts to conduct the tests. They will take with them consignments of the various fertilizers and plant foods, and will visit the experiment plots often.

The experiments will be conducted in Scott and Pyke counties simultaneously. The results obtained are expected to be the most valuable ever gained from crop and soil experiments and the time involved in the experiments and the money to be spent insures the importance of the tests. The soil on which the experiments are to be made is of the yellow clay variety.

POTATOES, CORN AND WHEAT.

If R. M. B., of Redlands, will read carefully the next few issues of the Cultivator he will get the desired information. Some of his questions have been answered in these columns during the past few weeks.

The total number of crates of cantaloupes shipped during the season from the Coachella district was 10,053. Of these, 4148 were standards, 4599 ponies, 321 jumboes and 975 specials. The average price for standards was 99 cents, ponies 53 cents, jumboes $1.43 and specials 30 cents.

VINES Rooted Vines, all varieties, on their own or resistant roots.

Minnewawa Vineyard, Fresno, Cal.

BLUE GUMS

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity.

Geo. B. Warner, Santa Ana, Cal

Berry Plants and Grafted Walnuts

Grafted Walnuts on both the Native Black and English Walnut Roots Also Santa Barbara Softshell Seedlings. Crandall Blackberry, Brandywine Strawberry and Loganberry Plants. Prices on application.

Toluca Nursery, G. Tosetti, Prop., Toluca, Cal.

THE VERNON NURSERY

4524 Central Avenue, Los Angeles, Ca.

Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.

Phone: South 1105 A. YARNELL, Prop.

RHODES DOUBLE CUT PRUNING SHEAR

Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.

RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

"Go to Gardena."

FOR SALE.—$7000.—10 acres, 6-room house, lawn and flowers, many varieties of bearing fruit trees, large barn and outbuildings, fixtures for 1000 chickens, horse, new surrey, farm tools, etc This is a sacrifice, as owner has left family here to accept large salaried position in the East.

W. M. Gray, Gardena, Cal.

TREES

ORANGE, OLIVE AND ALL OTHERS

Place orders now for delivery in time for season 1906.

Calimyrna Fig

[Genuine Smyrna Fig of Commerce] Our greatest specialty, Wonderfully Successful. The only fig fit for commercial purposes. Our Calimyrnas are guaranteed true to name and bear our seal

Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c. postage.

Fancher Creek Nurseries, Inc.

Paid-up Capital $200,000.00
Geo. C. Roeding, Pres. & Gen'l Mgr.
FRESNO, CALIFORNIA.
Growers of Trees and Vines of all sorts

CHICO NURSERY CO.

Our Specialties:

WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS

Complete Line of

FRUIT TREES and ORNAMENTALS

Agents Wanted

Third and Walnut, CHICO, CAL.

Hoegee's Guns

Wise Birds Know Em!

Our Bran New Gun Catalogue

Will tell you how to take advantage of this sad fact. We would be pleased to send you one if you would like to have it. Address a card to Dept. "A," directing it as below and the "cat" will come to you.

CANVAS IRRIGATING HOSE

1¾, 2½, 4, 9 } COSTS LITTLE
11, 13 Inch } LASTS LONG

KHAKI SUITS Faultless Fit To Order $4.50
Send for Self-Measuring Blank

The Wm. H. Hoegee Company, Inc.

Phones—Exchange 87 138-142 S. Main St, Los Angeles

CITRUS FRUITS

By C. A. Day. Pasadena

QUARANTINE AGAINST WHITE FLY

Quarantine established by State Horticultural Commission against the white fly of Florida.

Whereas, information has been received by this commission to the effect that the white fly (Aleyrodes citri) is prevalent in the orange sections of Florida, and that oranges, lemons, and citrus stock in that state are injuriously affected by said white fly; and

Whereas, said Aleyrodes citri does not exist, nor has ever existed, upon such citrus fruits or citrus stock of this State; and

Whereas, there is danger to be apprehended from the importation of such citrus fruits and citrus nursery stock into this State; therefore,

It is declared that a horticultural quarantine be, and is hereby, established against all citrus fruits and citrus nursery stock being imported from the State of Florida into the State of California, and all horticultural commissioners and local inspectors are hereby instructed to hold any and all such fruits or citrus nursery stock, subject to the shippers thereof, for exportation out of the state and to take every necessary precaution for the prevention of the introduction of the said white fly (Aleyrodes citri) into their districts. (Signed) Ellwood Cooper, State Commissioner of Horticulture.

Approved by (Signed) George C. Pardee, Governor of the State of California.

* * *

The above official letter has been sent out to all Horticultural commissioners and inspectors of the different Counties of the State and is along the right line. The several counties of the citrus section of the State of California have county ordinances quarantineing against citrus nursery stock from Florida.

* * *

State Laws and County Ordinances For Quarantine Purposes and For the Eradication of Noxious Weeds and Insect Pests.—It will undoubtedly be of interest to our citrus fruit growers to know that the State of California is well protected by law from the danger of importing into the State upon fruit and nursery stock insect pests foreign to this State. Under special acts by the State Legislature, provision is made for the creation of a State Horticultural Commission and County Horticultural commission.

The State Commissioner is made ex-offico a member of all County Boards of Horticulture and whenever present, acting with said County Board. The County Boards annually reporting to the State Commission.

In the matter of State quarantine, Section 4, of an Act to create a State Commission of Horticulture, says: "Said commission may, by and with the approval of the Governor establish, maintain and enforce such quarantine regulations as may be deemed necessary to protect the nursery stock, trees, shrubs, plants, vines, cuttings, grafts, scions, buds, fruit, pits, vegetables or other articles of horticulture, against contagion, infection by injurious disease, insects or pests, by establishing such quarantine at the boundaries of the State or elsewhere in the State, and he may make and enforce, with the approval of the Governor, any and all such rules and regulations as may be deemed necessary.

In the horticultural quarantine law of the State, Section 1, says: Any person, persons or corporation who shall bring, or cause to be brought into this State, any nursery stock, trees, shrubs, plants, vines, cuttings, grafts, scions, buds or fruit pits or fruit or vegetables, shall, within twenty-four hours after the arrival thereof, notify the State horticultural quarantine officer, or the quarantine guardian of the district or county in which such nursery stock or fruit, or vegetables are received, of their arrival, and hold the same without unnecessary moving the same or placing such articles where they may be harmful, for the immediate inspection of such state horticultural quarantine officer or guardian.

A failure to give notice as provided by the act, is made a misdemeanor.

A number of the Counties of the State have county ordinances which specify that a written notice must be given the horticultural commission or their inspectors within twenty-four hours after the arrival of nursery stock, plants, etc., within the county from points without the county, and the violation of this ordinance is made a misdemeanor and punishable with fine or imprisonment or both. Under the State law and county ordinances the railroad and express companies are obliged to give notice of the arrival of all shipments of nursery stock, plants, etc.

The only loop-hole by which nursery stock, plants or fruit could come into the State or Counties without inspection was the United States mail, and a ruling of the Post Office Department gives the postmasters the right to notify the State and County Commiscions of the arrival of plants or nursery stock through the mails. This ruling is now being taken advantage of in many parts of the State in the case of shipments from the State of Florida.

The State quarantine law and many of the County ordinances make it obligatory for all shipments of plants, nursery stock, etc., coming into the State or County to have plainly marked on the shipment, the name and address of the shipper. All things considered, the horticultural interests of the State of California are well protected by its quarantine laws from the importation of insect pests or diseased stock into the State.

It only requires a faithful performance of their duties by the officials, and the cooperation of the fruit growers and nurserymen to prevent future importations into the State or Counties of insect pests or disease.

We sometimes hear the taxpayer protesting against the expense of the State and County Horticultural Commissions, but when we stop to consider the hundreds of thousands of dollars annually expended by the fruit growers of the State in the effort to partially control those insect pests which have been in a former time imported into the State, and when we further consider the vast sums lost to the fruit growers by the depredations of such insect pests, we can but recognize the benefit and saving which comes from the measures taken to prevent further importation of pests foreign to the State.

Some of our nurserymen have protested against our stringent quarantine laws and the necessary inspection of stock, but if they will stop to consider that this is for the protection of their patrons, the fruit growers, they can but see that they will in the end be benefited by the financial gains that will come to the fruit growers.

* * *

Eradication of Insect Pests and Certain Noxious Weeds Within the State.—The State law governing this gives almost unlimited powers to the officials of the County commissions, but it seems the only way to protect the orchardist from the non-resident owner, and careless fruit growers who otherwise would maintain a nuisance in the way of infected orchards that make a breeding ground for the re infection of adjoining orchards that have been disinfected by their owners.

The State law provides, where due notice has been given, that any owner who shall refuse or neglect to abate the nuisance within the time specified, it shall be the duty of the County Horticultural Commissioners to cause said nuisance be at once abated by eradicating or destroying the disease, insects or pests, or their eggs or larvae, or Russian thistle or salt wort, or other noxious weeds. The expense thereof shall be a county charge and the Board of Supervisors shall allow and pay the same out of the general fund of the county. Any and all sum or sums to be paid shall be and become a lien on the property and premises from which such nuisance has been removed, and may be recovered by an action against such property and premises. A notice of such lien shall be filed and recorded in the office of the county recorder of the county, within thirty days after the right to the said lien has accrued and an action to foreclose such lien shall be commenced within ninety days after filing and recording of said notice of lien and when the property is sold enough of the proceeds shall be paid into the county treasury of such county to satisfy the lien and costs.

Cases under this law have been carried to the Supreme Court of the State and the law has been pronounced constitutional. These measures may seem to work a hardship on careless property owners who fail to comply with the law, but knowing the course of the law the property owner at the present time promptly treats the orchard when notice is given.

The State of California has the most stringent quarantine laws of any state in the union and the large fruit interests of the State require that this should be so.

The citrus fruit growers of our State, subject as it is to the depredations of a large number of insect pests are greatly benefited by our State laws and county ordinances, providing for quarantine and protection from insect pests and diseases.

THRIPS ON ORANGES.

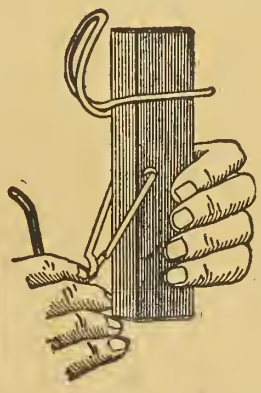
W. S. G., Lindsay, is referred to an article in last week's issue, page 378, entitled "Insects on Orange Trees." The appearance of these insects on orange trees is new to our horticulturists and but little is known concerning means for their eradication. We intend keeping in touch with the study of this pest and so soon as an effective check is found we will publish all the facts known.

IT'S PENNY WISE

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow St., Los Angeles.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

Woodward's Patent Adjustable Prop Bracket



Does not get out of order.
The Best Bracket Made.
$17.00 Per Thousand
Manufactured by
J. K. Woodward & Co.
Riverside, Cal.

Peas 500,000 Pounds Two Hundred and Fifty Tons Peas
Nitro Culture doubles your croo. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.
Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

DRIED GROUND TANKAGE
THE BEST AND MOST ECONOMICAL FERTILIZER
ANALYSIS { 10½ per cent Ammonia / 18 per cent Bone Phosphate
WRITE US FOR PRICES AND PARTICULARS
Western Meat Company - - San Francisco

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

NOVEMBER FLORAL CALENDAR.

It is a good time to sow sweet peas just now. It brings them into bloom just when they produce the largest and best blooms. It will pay to spade up the ground just as deeply as possible, even to two feet. This gives not only a good depth of soil, but that good drainage which is so necessary to the successful growth of first class sweet peas. Keep them free from weeds and the surface well loosened at all times.

TIMELY PROPAGATION.

At this time you should take cuttings of soft wood and tender herbaceous plants such as: Allernanthera, begonia, coleus, fuchsia, heliotrope, marguerite, etc. Bottom heat is not needed though better results can be obtained with such a convenience.

Get a box of clean sharp sand, see that the drainage is perfect—plenty of holes in the hottom, wet the sand down thoroughly, put your cuttings in a slit made with a knife or thin paddle, press sand around cuttings and wet down. Watch them closely and don't allow them to dry.

A BAMBOO FOR HEDGES.

We have such a variety of plants used for hedges that scarcely any uew introduction in this line causes surprises to Californians. Yet we must admit that a bamboo for the purpose is somewhat novel.

Of late years the demand for bamboos to be used for hedges and screens, mostly between city lots, is constantly increasing, as no better plant can be found for such purpose. The only drawback is that the varieties geuerally employed, Chinese and Japanese Phyllostachys, have a tendency to send out runners in every direction, which, in many cases, soon become a positive nuisance. There are also two species of arundinaria, from the Himalayas, (A. Falcata aud A. Falconeri), which always grow compact and in clumps, but, on account of not being easily propagated, they have always remained scarce aud too high priced for general use. We have been fortunate to obtain from Darjeeling, 7000 feet altitude in the Himalayas, a new species, Arundinaria Hookeriana, which is much superior to the above named because it grows much more rapidly aud has richer foliage which keeps better in winter. Those who have tried it claim many points of superiority for this plant for use as a hedge.

JAPANESE PINKS.

From the many beautiful flowers that seedsmeu name in their catalogues, it may seem difficult to select the most desirable. But considering the cost of seed, ease of culture, variety and beauty of bloom, together with the lentgh of the blooming season, I thiuk no one will deny that the Chinese, or Japanese, pink (Dianthus) must have a place.

Five cents' worth of mixed seed will yield a surprising variety of both single and double flowers, ranging in color from pure white to the darkest crimson. Put them in the vegetable garden along with the beets and carrots. You might mix a very few early radish seed wtih the pink seed. These will be fit to use before they do any harm to the pinks. Then, if your garden is well teuded, you will be delighted with blossoms nearly the whole year. If they are in the way of the plow they will be all the better transplanted, shake them apart and set one in a place about three inches apart. While they sometimes are all right a second year, it is best to put in a few fresh seeds each year.

DECORATIVE ASPARAGUS.

Two varieties of asparagus are very ornameutal and most graceful in their manner of growth. Asparagus plumosus has leaves as delicate as the finest maidenhair fern. A large plant can be trained to grow on the side of a window or on small trellis in the house. It must have plenty of pot room and the richest kind of soil, as it is a gross feeder. Asparagus Sprengeri is a variety of more substance, having heavier foliage of a deeper green and needs still more food and water. It is a more satisfactory plant than plumosus, standing better indoors. For a pedestal, a bracket or a small round table, it is an ideal plant, as its long sprays will droop all around, forming an object of great beauty.

LOS ANGELES FLOWER SHOW.

The premium list and program of the November Flower Show at Los Angeles has just been issued. Over a dozen cups are offered for various exhibits, for which entries have come from many outside poiuts. The list of 100 patronesses includes the names of the most prominent members of local society. The exclusive right to refreshment booths has been granted free to the Civic Federation of Women's Clubs, the members of which are greatly interested in the work, for the entire proceeds of this feature of the show are to go to their school garden fund. An orchestra will be present each evening, beside a special musical feature. On Saturday evening the refreshment dispensers will all be dressed in Spanish costume and serve Spauish drinks, and dishes, an exclusive Spanish orchestra will be on hand, and everything will be done to make the eveniug seem to visitors like one passed in the heart of old Mexico.

The exhibition of flowers and plants will be the finest ever seen in Southern California. So many eutries have been sent in that the Association was forced to procure Symphony hall, which connects with the main exhibition hall (Blanchard's); and have had to refuse several proferred exhibits. Membership for the current year (1905 only) costs three dollars, but every member will receive a season ticket for self and lady, which if used every evening, will give him his entire investment back. Don't forget the dates. November 2nd, 3rd and 4th. Further information furnished by the Secretary, Ernest Braunton, 203 New High Street, Los Angeles.

LIQUID MANURE.

The best all round liquid fertilizer can be made from cow manure. Make the liquid in a barrel or tank, and when drawing it off dilute to about the color of weak coffee aud apply once every five or six days, according to the needs of the plants. This will do both for roses and carnations. If the cow manure is not obtainable, sheep manure will suffice, or ordinary stable manure. If sheep manure is used, care must be taken against using it too strong or more harm than good will result. In feeding with liquid, it is well to know that a weak solution applied often is better than stronger ones given at longer intervals.

WATERING PLANTS.

When you water plants, soak them and have done with it. It is the little dabs of water all the time that do mischief. Out of doors it doesn't rain every few minutes but when it does it soaks and then stops. Morning is the best time to water. If you have house plants, stand the pots in a tub of water, deep enough to reach almost the rim of the pot. When the soil turns dark on the top take them out and drain before carrying in the house.

HOUSE FERNS.

Only a few of the many varieties of ferns will do well under ordinary house conditions. Most varieties are too sensitive to the extremes of temperature and the dry air commonly found in living rooms. The Boston fern is probably the hardiest of all and most easily grown in the house. It requires a rather light soil, to which has been added some leaf mould, and the roots must be kept moist but not too wet or be allowed to dry out. Spraying once a week is useful to keep the fronds free of dust, as well as to prevent the attacks of scale and insects.

BISULPHIDE FOR ANTS.

Where ants infest lawns, punch holes about a foot deep with a stick at three or four points near the center of the nest; pour into each about an ounce of the bisulphide of carbon and close the openings with the foot. The vapor will get into and follow the galleries aud kill the ants. A second treatment will rarely be necessary.

DAHLIAS.

It is rather the fad in these days to cultivate old-fashioned flowers of all kinds, aud among the old-time favorites none has come back into fashion with greater emphasis than the dahlia, largely because of the many late improved types. The attention which is being bestowed upon this flower is well deserved. It is really a species of more than ordinary merit. While the old-fashioned varieties are worth preserving, there are some improved strains which are far ahead of them. The modern cactus dahlia is particularly interesting, graceful and attractive, aud is each year growing in popular favor. Every season sees new and more beautiful types until now the Dahlia is forcing attention even among the growers of cut flowers for the market.

DRAINAGE THE SURE CURE FOR ALKALI LANDS.

The only really effective method of reclaiming alkali lands is to remove the soluble salts from the soil. This may be done in many cases, where the soil is of comparatively coarse texture or the location is favorahle, by making open, deep ditches at different intervals in the field and soaking the soil thoroughly. Quite a number of Utah farms have been reclaimed from the alkali scourge in this way. The better way and in most cases the hest manner of reclamation, is to lay a system of tile drains which, under the influence of heavy irrigation will carry off the soluhle alkali of the soil. It is urged against this method that it is very expensive, and that the farmers of this state cannot afford it.

Considering, however, the value of an acre of irrigated land, and that the great majority of lands trouhled with alkali would he among the most valuable lands in the state were they reclaimed, it would seem to be a wise investment financially, could they be reclaimed at a moderate cost. The expense of underdraining does not need to be excessively high. There is plenty of clay in the state and should the demand for tile drains arise capital would gladly establish tile factories wherever necessary.

In fact, the average alkali lands of the state could be drained at an expense of from $10 to $17 per acre, with an average cost of perhaps $13 or $14 per acre.

There is, of course, considerahle hesitation on the part of farmers to undertake draining, since they are not certain from their own trials or from those of their neighbors that the method will be successful in removing the excess of alkali.—Desert Farmer.

The trustees of the Fruitvale school district in Riverside Co., have a plan made for a garden. They have written the County Superintendent of schools for seeds, and propose to raise and sell sufficient vegetables to buy pictures for the school walls, a croquet set, etc.

SEEDS
PLANTS
AND EVERYTHING
FOR THE GARDEN
THEODORE PAYNE
416 W. 7TH ST., LOS ANGELES

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS.
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

In the Vegetable Garden

WHERE ONIONS GROW.

Down near Westminster, in Los Angeles county, they are growing onion sets by the ton. Mr. S. J. Murdock, one of the heaviest growers in that section, states that the acreage this season is from 18 to 20, which will produce 40 to 50 tons. Last year the output was over 60 tons, but the late rains which prevailed on the mountains did not reach this district, hence the light yield. Had the main crop been planted earlier, all would have been well.

The demand for these sets far exceeds the supply and orders for at least 40 tons in excess of the crop have been received. The soil in this district is a heavy, black slough land, well supplied with humus and fibrous content from the tules, grasses, etc., and from the same source, through years of burning off comes a good supply of potash. In some parts a heavy per cent of alkali is present, but nowhere in sufficient quantities to prevent a crop of onions. It is claimed for the onion that it will thrive where so much alkali is present that celery will not grow.

Their main seed planting season is from February to April, though some is done as late as July 1st. The rows are placed but eight inches apart and as is the case with all set growing, the cultivation is all hard work. The crop is never irrigated so that damp lowlands are most desirable. When first settled the water almost stood on the surface, but by under-drainage it is now four feet below.

The sorts mostly grown are the Australian Brown, Strasbourg, Philadelphia Silver Skin, Extra Early Pearl or Barletta, and the Queen.

GROWING RHUBARB.

A sure way to successfully grow pieplant is as follows: If possible, have your pieplant in the shade of trees; the more shade the better. Cover the bed four to six inches deep with well rotted stable manure, then spade it as deep as you can, mixing the manure with the earth as much as possible. Set your plants three feet apart each way then spread evenly over the entire bed four to five inches of new stable manure. The stalks will grow ranker if a barrel with both ends out is placed over each plant. If you have plenty of shade the barrel is not necessary.

A CALIFORNIA-TEXAS DINNER.

It was our pleasure a few days since to sit at a table in a Texas home, on which a tasteful variety of foods was spread. There was crisp lettuce, delicate cauliflower, firm, red tomatoes and fresh roasting ears making up a delightful vegetable dinner. We remarked on the perfection of these vegetables and were informed that each and every one of them came from California in refrigerator cars. We were curious as to the cost of these imported items and were told that each dish represented an expenditure of only five cents at the grocer's. The table seated six persons.

Further investigation showed that these vegetables were grown under irrigation in far-away California. We pondered the facts. Why should Texas be a summer market for California vegetables? There must be ten thousand Texas families in towns and cities today eating from the same fields on which grew these vegetables. How can a Californian, on $200-land, buy irrigation water, grow a crop in midsummer, pay freight and refrigeration for a 1500-mile shipment and sell his product through retailers to consumers at reasonable prices? Here is certainly skill in growing; but most of all the system of distribution and marketing strikes one with peculiar force. The commercial instinct has been developed in connection with the growing of these California products so that the world's markets are conquered by the very cheapness of the goods offered.—Farm and Ranch.

PREVENTING SCABBY POTATOES.

Scab on potatoes can be very effectually controlled by soaking the seed potatoes in a solution of corrosive sublimate, dissolving two ounces of the powdered article in two gallons of hot water in a wooden or earthenware vessel. When thoroughly dissolved add it to thirteen gallons of water in a clean barrel, allowing it to stand two or three hours with frequent stirrings in order to have the solution uniform. Either before or after cutting up the seed, place it in bags and dip it in the corrosive sublimate solution and allow them to stand in it for an hour and a half, when it should be taken out and other sacks of seed similarly treated, as long as the water holds out. If this seed is sown on land reasonably free from scab the crop will seldom be seriously injured. However, land infested with the germs of potato scab will produce a more or less scabby crop, no matter how clean or smooth the seed used, or how free from fungus it may be.

Scabby potatoes should be dug as soon as matured, for the fungus disease continues to grow and injures the potatoes as long as they are in the ground. Potatoes may be grown from seed very similar to that of growing tomatoes. However, the little plants should be put out the first year as close as six inches apart. At the end of the first season the tubers will be about the size of hen's eggs, and should be stored and cared for in a way similar to that of other seed potatoes. The next season with good care they may be expected to produce tubers of the usual size. It is not usually possible to get seed from our common varieties of potatoes, but most seed houses carry the seed for sale in packages at about five cents each. We commend the growing of potatoes for seed as a very interesting and useful line of experiment, as each seed represents a new variety, so that in a hundred plants scarcely two of them will look alike, varying in color from dark blue to pure white, and differing in form and color of the eyes as much as any of the cultivated varieties. New varieties originated in this way are likely to have renewed vigor, and if possessed of other valuable qualities will make useful additions to the list of cultivated varieties.—Farmer.

TOMATO BLIGHT.

For several years the experiment stations have been trying to solve the tomato blight malady of the arid sections. So far from all the investigations made, no certain bacteria can be ascribed as the cause. Demonstrations at the stations show that in beds planted with tomatoes, and which for a year or two previous had heavy dressings of barn yard compost added to the soil that in such plots there was considerably less blight than in beds not so treated. This fact has been verified at different places and in different years. In other words, soils which analyze a high per cent of potash when diluted with humus and nitrogenous elements produce plants which show a less tendency to blight. It might be interesting to have this experiment carried on a little further in the same direction; it might lead to a more formal conclusion as to whether or not the caustic effect of potash under conditions of high temperature and moisture injures the tomato plant. Excessive potash under certain conditions, like alkali, is injurious to plants, while in moderate amounts under proper conditions it is very essential.

The point made by speakers, at the meeting of the commissioners to locate the new Pathological Laboratory and Experiment Station, that the station should be placed where there is most activity in pest development was well taken, but it appears to a disinterested looker on that about every locality in Southern California has its line of pests and it would be a difficult matter to find a place where these pests in abundance do not appear with unerring certainty.

FOREST LOOT.

The great forests of the Pacific slope contain the finest mercantile timber in the world today, said a prominent Californian who was recently in Washinton. But the noblest of forests are fast being mowed down before the swath of commercialism, regardless of future lumber supplies or the source of our western water supply. Notwithstanding the vigilance of the government agents the work of despoiling timber lands of the coast goes merrily on. The forest lands of the Mississippi valley states are almost bare and the timber grabbers are working in full force in the unrivalled pine and cedar forests of Idaho, Washington and Oregon and in the redwood belts of California, yielding their almost incomprehensible cut of timber per acre. It is commonly believed in the west that unless some drastic action is taken there will be no virgin forests 20 years from now, except in the forest reserves.

Governor Pardee has received the following letter from the President of the American Chamber of Commerce in Naples, Italy:

"I assure you that I will do all in my power to place the resources of the State of California before all interested parties, and anything that you may send to this Chamber of Commerce will be placed in a prominent position without any charge whatever. Therefore should your State Agricultural Bureau desire to place a small exhibit I shall be pleased to see that same is taken care of. Of course such exhibit should be delivered free of all expenses in Naples.

Yours very truly,
J. P. Spanier, President.

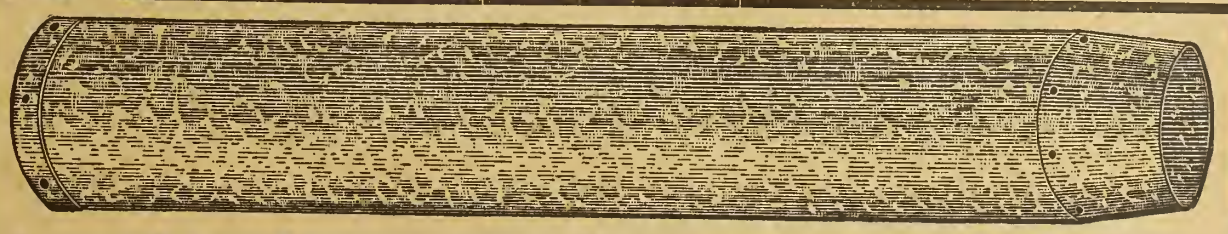
Sugar and cream are a bad combination with berries of an acid nature.

Strawberry Plants
200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address
F. S. Lee, Pasadena, Cal. Phone Main 922

LAXTON'S NOBLE STRAWBERRY PLANTS
400,000 First-Class Plants. Prices on application
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297
Pasadena, Cal.

NATIONAL WOOD PIPE CO.
MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR
WOOD PIPE
WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE
Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts.
San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The **only** way to **Irrigate Alfalfa.** **Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **Ten Feet** from **Single Sheets.** Let us **prove** to you that we make **Pipe** and **Tanks Right.** WRITE FOR CATALOGUE.
TALLERDAY MANUFACTURING CO.
PHONE: ALHAMBRA 301
DOLGEVILLE, CAL., the Manufacturing Suburb of Los Angeles
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Oct. 27, 1905

CONTENTS.

	Page.
Orange County Celery Fields	387
Quarantine on Florida Oranges	388
A Successful Woman Rancher	389
Shipping Fruit in Vacuum	390
Citrus Quarantine Laws	391
November Floral Calendar	392
Where Onions Grow	393
Editorial	394
Coast News Notes	395
Money in Mules	396
Feeding Farm Horses	397
Sanitary Dairy Law	398
Poultry For Profit	399
How to Dress Ducks	400
Veterinary	401
Control of Forest Fires	402
Climate and Crop Report	403
Markets	406-7

Test of the President's Rate Bill.—Under date of October 12, the Washington Post gives what purports to be President Roosevelt's views formulated in sections relative to railroad legislation to come before Congress this winter. Last winter a bill known as the Esch-Townsend measure was passed by the Lower House. It is this bill which the President wishes modified in several important particulars. The Post says the following on the President's announcement:

1. That the interstate commerce commission shall be given the power to decide, upon complaint after full hearing, whether a rate is unjust or unlawful; that the commission shall have authority to substitute a rate which shall become immediately effective and so remain, unless and until reversed by the courts.

2. The commission shall have the authority to declare that a rate charged for shipment on private cars is unjust or unreasonable, if it be so, and that the common carrier shall be held responsible for such charges.

3. Giving the interstate commerce commission jurisdiction over terminal railroads.

4. A reassertion of the long and short haul provision of the original interstate commerce act.

5. A provision relating to the shipment of merchandise by water and rail, so as to prevent manipulation of rates, made possible in such circumstances under the present law.

6. Giving the commision full authority to examine the books and records of the railroads and to prescribe the general form and manner in which such records shall be kept.

It will be observed that each one of these provisions goes straight to the cause of complaint by the shippers. If the rate is shown to be excessive the Interstate commerce commission has the power, under this clause, to modify it, and to make one which will be just. This is the whole matter in the contention of the shippers of California today. They claim that the rate on their products is out of all proportion to their net receipts, and further that the railroads can carry their consignment at a much less rate and still derive a handsome revenue from the business. If the interstate commerce commission is clothed with mandatory authority, and is composed of business men, it can easily learn what a just and unjust rate is by a computation of distances, expense of hauling and operating cars without taking into account at all what the producer receives for his foods.

It is the just rate which is wanted, a rate based upon fairness to the railroads and justice to the shippers. No well-meaning man desires to entail upon the transportation companies ruinous or even burdensome laws. They have their rights, but they have gone beyond those rights and exacted tribute where none was due them and it is because of this that the protests of the producers and the shippers have found lodgment in the ear of the country and the mind of President Roosevelt.

* * *

Assuming Political Character.—The railroad rate discussion appears to be assuming a political character if we may judge from the editorial comments of leading newspapers throughout the country. The President and the Republican press, of course, stand squarely for a rate law, to be operated by the Interstate Commission.

On the other hand certain Senators are opposing any change in the law and among them are members of both the great political parties. The following from the San Francisco Chronicle's editorial page shows the trend of discussion so far as the republican view generally is expressed:

The railroads control the Senate because they control Legislatures which elect the Senators. They control the Legislatures, not usually by direct bribery with money, but with regular yearly incomes paid to their henchmen for attending to some duty. To a small extent only do these incomes come from the railroad treasuries. They would not trust such cattle as they hire for such purposes about their offices. For all business connected with the operation of their systems they will employ only men of approved character. The regular incomes provided for the men whom they hire to do their dirty work the railroads insist on having provided by somebody else, and that "somebody" is invariably the public. If any one desires important office—state, municipal or Federal—he can get railroad help or escape railroad opposition only by delivering his patronage to the railroads for the support of their roustabouts. This is true in every state in the Union. The railroads everywhere endeavor to control Federal, state and municipal offices, and, as leading to that, the party organizations."

This is a very strong arraignment of the railroads to be made at this time, but later developements may bear out its truth.

* * *

Renting vs. Owning Land.—If the Cultivator were to offer advice to young men who contemplate making farming their permanent occupation, it would say, buy land, don't rent. "A renter once, a renter always," is a maxim which has more truth in it than fiction. Horace Greeley, once said to a Colorado farmer, a young man, who sought his advice on this subject, "a renter never amounts to anything, own your own land if it is only an acre."

In line with this advice comes the following from the Earth, an agricultural journal in Illinois:

"Young man, don't rent land if you can possibly help it. Buy some kind of a farm if you haven't a cent to pay down on it. Make up your mind to hold it, and do it at all hazards. The renter is never given the slightest show on earth. The landlord usually wants cash rent. He will rent the farm to you only from year to year, as he might get an advantageous opportunity to sell it. You feel no interest in the place, and this naturally causes you to fall into slipshod, shiftless ways. Then again, the place you buy when you are young will be worth when you get old just twice as much as you paid for it. Quit renting and buy you a farm somewhere and never let it go.

* * *

Farmers' Institutes.—The season for the opening of Farmers' Institutes in Southern California is near at hand. Prof. E. J. Wickson, dean of the Agricultural College of the University of California, was in Los Angeles last week, and from him the Cultivator learns that very soon now, a manager will be appointed for Southern California who will arrange for twenty-five institutes. Dean Wickson informs us that the agricultural faculty of the University will be called into service to attend these institutes and he expects to make them better, in all respects, than they have heretofore been. The Cultivator would advise localities ambitious for institutes to make application to Prof. Wickson, Berkeley, at an early date.

* * *

Will Congress Never Act?—The need for immediate and radical action by the Government to check the inflow of undesirable immigrants is increasing today with a greater force than ever before in the history of the nation.

Last month over ninety thousand immigrants arrived in New York, and this is an increase of eight thousand over the corresponding month of last year. The greater part of these people came from Eastern Europe and only about 20 per cent. of the total can be classified as desirable. It is evident that the influx is not to be stopped by discussion, of which there has been plenty, and the immigration authorities cannot wake up from their present trance too quickly.

* * *

A Blot on Our Civilization.—If the telegraph dispatches from Chinese ports are to be belived, a most infamous traffic is being conducted in American girls for Chinese slaves. Both at San Francisco and Chicago, men and women are engaged in this abominable business and innocent girls are being exported under contract as governesses in wealthy families, when in fact they are to be used for immoral purposes. Some of the girls, when their fate became known, committed suicide. It seems there is no Federal law to reach this business, but there should be, and Congress ought to make one this winter which will be so drastic as to forever put a stop to the nefarious traffic. Let American girls, all over the country, beware of inducements held out to them by advertising firms to accept places in families in foreign countries as governesses, or maids to high dignitaries, women we mean, for at the bottom of the propositions, they may rest assured is a slavery worse than death.

* * *

Short Course in Agriculture.—The State University has provided a short course in agriculture for those desiring such instruction. It will embrace such studies as are pertinent to California farming in general. Prof. Wickson, dean of the Agricultural College will furnish all needed information on application.

* * *

THAT BAREFOOT TRAIL.

Over in Iowa there is a man constituted along the lines of the "good old days," before so much moral philosophy was applied to the boys and girls of that periad. This man whose name is Edward Sabin has just published a little peom entitled "The Barefoot Trail," in which so much simple rural life is crowded, as to be extremely refreshing. The Des Moines Capital, whose editor knows Sabin, as we know him, simple hearted and free from all form of vain glory, says of the poem: "When Mr. Sabin wrote those verses he was not worrying about any of the perplexities as to whether heredity or environment play the greater part in the development of a child. He simply threw some of his own youthful recollections and observations in and about Clinton, in this state, into uncommonly fetching jingle and rhyme. "The Barefoot Trail" was such as all village and country boys followed in that day over the hills, across the meadows, down by the river, through the woods, and when the day was done "back to home and mother again."

We all have in memory some barefoot trail, which we followed as boys and girls, on which we sniffed the ozone from the redolent air, while our feet tingled with the cool dews of the early summer morning. The barefoot trail worked all right then. It would work all right today if we could give it the same opportunity it had fifty years ago.

The tendency nowadays is to fuss over children too much and watch them too incessantly. The let-alone doctrine ought to have a time and place. Boys and girls can attend to a part of their development a good deal better than anyone else can do it for them. Let nature have her own course for a part of the time at least. If this thing keeps up of mothers attending scientific discussions of environment versus heredity and then going home to superintend every move the youngsters make from Monday morning to Saturday night is not stopped the life of childhood will hardly be worth living any more.

Some one has said every man has two educations—one that is given him by others and the more important one he gives himself. The modern isms on child culture ought to have a rest. Youngsters will get some mighty good schooling while following "The Barefoot Trail," and the other part will follow naturally enough later in the day when they get "back" to home and mother again."

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

Banning reports state that the prune and almond crops in that vicinity have been unusually good, with prices at top notch.

The pear and apple crop around Downey is but little over half a crop, the cause supposedly being the late, backward spring.

O. S. Jordan of Whittier, receives $2700 for the Valencias on 290 trees net, or more than $9 per tree. How's that for profit?

Reports of the grape crop around St. Helena show that the crop was even lighter than expected, but experts state the quality of wine made has never been surpassed in that district.

The California Citrus Union received this week $1051 for less than a carload of Valencias which the Union packed for Porter Brimmer, of Rialto. This included standards, and netted for the grower more than 4 cents a pound.

The cantaloupe acreage for 1905 in the Coachella Valley was 690 acres. This crop together with their watermelons and grapes has brought them a rain of double eagles, for all of the past season's crops came fully up to all expectations.

Advices from Vancouver, Washington, are to the effect that the prune crop has turned out a great deal better than at first expected. It is probable that at least 150 cars will be packed in that district. The prunes are all very large, a great many grading from 20 to 30 to the pound.

One of the Cultivator staff, writing from Lompoc, states that the valley has had a prosperous season in all lines; apples fine, with heavy crop; grain yield good; mustard (an important local industry) has yielded well; hay crop, fair, but extra quality; stock, poultry, etc., in thriving condition; he says: "I tell you Lompoc is on the map all right."

The Golden State Fruit Company of Ontario, under the management of L. E. McCann, has had a prosperous season. The capacity of this plant is 40,000 cans per day of ten hours. The total pack for this season is 1,100,000 cans, 2,200,000 pounds of fruit having been used to fill this number. With the exception of 185 tons all was raised in and around Ontario.

La Harbra Vegetable Growers' Association sold by contract to the California Vegetable Union Monday of last week their entire crop of tomatoes. It is estimated that the crop will amount to about 900 tons first grade and 600 tons second grade, or a total of 1500 tons. About 300 acres are in tomatoes and the starting price will be $30 a ton for first grade, or a this price the crop will bring $27,000 for first grades alone.

The date trees at Hanlon's near Yuma are being picked of their annual crop, which is said to be unusually large. The Indians are carrying them away by the burro load, as no attempt is being made to market them. While of an unnamed variety, the fruit is of excellent quality, and were an attempt made to sell it, there is little doubt that it would bring a good figure. For many years the trees have borne splendid crops, affording ample evidence of the future for the date industry in this section of the United States.

For big net profits in oranges, the Coulter ten-acre place, two miles east of Fullerton, is a record-breaker. Three years ago the orange crop from this place, which is not all set to oranges, sold for $6250; two years ago it brought $5150; one year ago the income was $4900, and this year the oranges sold for $8658 net.

A North Yakima, Washington, report says that from the present outlook the quality of the apple crop will be unusually good, though the crop is somewhat short. Winter pears are also being heard from and in both cases prices are good and will probably remain so.

AGRICULTURE.

Sid Gray of Downey, planted alfalfa in February and has cut five crops, the last one over a ton to the acre and the sixth is nearly ready for the mower.

Ranchers in the Imperial Valley have appealed to the Secretary of the Interior at Washington to take measures to stop the overflow of water into their region.

The beet dump at Somis closed a successful season on Saturday night. In the neighborhood of 20,000 tons will have been harvested between July 31st and October 21st.

The first celery has been shipped from the Smeltzer district, to Chicago. There is a greater demand for this succulent vegetable than ever before. The local crop is heavy and in prime condition.

The sale of public lands in California since the reclamation act became a law, amounts to $2,333,466.08, all of which figures go into the general reclamation fund which now amounts to about $30,000,000.

Robert Gauss of Denver, after experiments of 15 years, has developed varieties of wheat, oats, barley, and rye which give remarkable yields without irrigation other than that of the slight rainfall on the plains.

Farmers in the northern portion of Yolo County are circulating a petition which will be presented to the Board of Supervisors, asking that they pass an ordinance making it compulsory on the part of farmers to put out poison for squirrels.

The bean thrashing is neary ended and if good weather, it will be finished in a week. This week there were six large outfits in sight of Oxnard. The machines are running from daylight until 9 and 10 o'clock in the evening. It now looks as if the output of beans for this season will exceed 625,000 sacks.

The bean raisers of District 70, near Yuba City, have finished harvesting their crops, and now have nothing to fear. Had there been a little rain several weeks ago the farmers would have suffered a heavy loss. The weather has been ideal. and the beans averaged about forty sacks to the acre, which is good.

The shortness of the wheat crop in Mexico is greater than was estimated a few weeks ago, and millers are looking for the entire removal of the duty on American and Canadian wheat by the first of next year. The city bakers have reduced the size of their loaves, asserting that it is impossible to give the same weight as formerly.

Monterey county reports the best barley crop in twenty years, upwards of 100,000 tons. Wheat and oats were light on account of rust. The potato yield was immense, over 60,000 tons of most excellent quality will be harvested. 20,000 tons of beans have been marketed as well as 200,000 tons of beets, with more to follow. This has been a splendid year for Monterey county.

The gathering of the pear and peach crop around Hemet is drawing to a close. Harvesting of the olive crop will soon begin, and next month digging winter potatoes will be started. In the latter part of November and early in December Hemet should make carload shipments of navel oranges for the Eastern market. In this valley seed time and harvest time are perennial.—Hemet News.

Horst Bros, of San Francisco have, by a succession of deals, obtained control of the whole hop crop of the lower mainland of British Columbia. They have for some years been growing hop at Chilliwack and Agassiz, having 130 acres owned or leased in the former district. Lately they have bought the crop of H. Hulbert, who has forty acres in Chilliwack, adjoining the Horst farm, and by a number of deals have secured 150 acres from surrounding farmers.

Wheat and barley crops in the San Jacinto grain district were unusually large, hundreds of thousands of sacks of grain being threshed in the last few weeks. In the Yucaipe Valley there has been one of the best seasons known in several years, considerably over 100,000 sacks, while in the Moreno, Perris and Alessandro Valleys the output has greatly exceeded these figures. The total estimate runs into almost half a million sacks. Some of the barley has run 120 pounds to the sack.

The Kern County Echo says: "H. G. Kincaid who was in town from the Weed Patch yesterday, says that he is harvesting fifty-two tons of Egyptian corn from thirty-five acres of land. The greater part of the crop was from twenty-five acres of land, and Mr. Kinkaid credits the great yield to the manner in which he cared for the corn. The twenty-five acres where the best corn grew was irrigated before the seed was planted. When the corn was about three feet high it was irrigated again and then cultivated. When the heads were forming the corn was irrigated for the third time. The usual way is to irrigate only before planting, but Mr. Kinkaid says that the extra crop he is getting more than pays for the extra water and labor."

LIVE STOCK.

The wool growers about Petaluma have about all decided to hold on to their fall wool, as there is practically no market for that commodity at present.

Practically all the wool in the warehouse at Ukiah has been sold, the first lots going Wednesday night and Thursday morning. The prices were from sixteen to nineteen cents, the average being about 17 1-2 cents. About 600 bales changed hands.

The American Stock Growers' Association and the National Live Stock Association will make a joint fight against the national convention at Chicago being "packed" by the railroads. The stock men want better rates and several changes in the existing rules.

MISCELLANEOUS.

At Las Vegas the Salt Lake Railway Company is building a depot which will be the handsomest structure in the whole desert region. It is modeled on the mission style, something like the depot at Riverside, and luxuriously appointed for passengers.

Ten carloads of horses, scrapers, dump wagons and other railroad building material arrived in Marysville yesterday and will be used by the Pacific Coast Construction Company to build the Western Pacific Railroad from Marysville to Oroville and south from there to Stockton.

The Redding Land Offices received notification from Washington making permanent the Mount Shasta forest reserve, comprising about twelve townships in Shasta, Trinity and Siskiyou Counties and taking in Mount Shasta. Thousands of acres of land along the Sacramento, Pitt, Scott, Klamath and Salmon Rivers are withdrawn from entry and settlement.

Greatest National Bank West of Denver and South of San Francisco

First National Bank

United States Depository for Government Funds

CAPITAL, SURPLUS AND UNDIVIDED PROFITS, OVER $4,000,000.
DEPOSITS, $13,500,000. TOTAL RESOURCES, $18,000,000.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

PRESIDENT—J. M ELLIOTT.
VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS.
CASHIER—W. T. S. HAMMOND.

First National Bank
Los Angeles, California

C. H. SESSIONS, ASSOCIATE EDITOR

MONEY IN MULES.

Since the Boer war, mules have been worth more for draft purposes than horses. The country has been literally drained of this valuable farm auxiliary, so that today a span of good mules costs from $300 to $400. In California the demand for mules exceed that for horses.

The point about the mule is that he is better liked, as a general thing, by farmers, than the horse. If he is treated decently and fairly fed and groomed as the horse is, he is the kindest, best behaved domestic animal on the farm.

It is a fact, and all users of the mule will tell you so, that his virtues are less understood than any animal we use. He is "cussed" more and oftener, beaten with clubs, and struck with stones when he does not deserve any such treatment. We remember, while in the service, hearing General Thomas reprimand a mule driver for beating his mule team. He said, "Young man, if you will stop pounding your team and talk good horse sense to it you will get your wagon out of that rut," and taking the lines from the driver's hands he quietly patted the leaders, one by one, spoke kindly to each, and after a moment or two of silence said, in a mild but firm voice, "go on now," when lo, the team started and pulled the load out of the mire. Handing back the reins to the driver the General said, "You see, young man, it pays to treat even a mule with kindness."

We remember reading, not long since, the following about the mule and his virtues:

"Often in farm papers letters appear from men who are familiar with mules both in raising them and in doing all sorts of work with them, and it must be admitted that whatever is published about the animal from any point of view is in its favor. This being true, why is it that there is such a strong prejudice against mules?

I have owned a good many farm mules, and inasmuch as I grew up on a southern plantation, where I was perfectly familiar with them and often rode them and drove them from preference, I think I can pronounce a strictly unbiased judgment upon them. I therefore say with certainty that most of the bad qualities attributed to the mule are slanders.

They are not kickers or balkers, are not stubborn and are not tricky. These are the most common slanders. They are faithful workers, can live on less than horses, last longer, are more healthy, less likely to run away, and can stand hard usage far better. With these points in their favor, they are more desirable for most places than horse colts, and there is more profit in raising them. If a man is raising horses to sell, I think, unless he is very far north, where the demand for mules is light, he would do better to raise mules instead. If one has large sized mares, say 1300 to 1500 pounds, and will breed to a large Spanish jack, the chances are that he will have young mules that will bring fancy prices. I have never known a time when good sized, smooth, stocky mules did not do this.

The average selling price in all markets is and has been higher than that of horses, and unless one happens to be outside of a region where mules are in demand, they can at any time be sold at satisfactory prices. This fact is being recognized by horse raisers in some of the States, and some of them are going into mule raising as a better investment.

Therefore, if I were going into stock raising, I think I should try mules as being the safest and most profitable."

DAIRY EXHIBIT AT THE KANSAS STATE FAIR.

The chief feature, and probably the most interesting exhibit at the Kansas State Fair, at Topeka, Kan., says the Kansas Farmer, was the dairy exhibit of the Kansas State Agricultural College. It consisted of a complete working dairy, with the various kinds of butter making apparatus, such as cream separators, pasteurizers, coolers, churns, workers, and a complete labratory for testing the milk from the cows that entered into competition.

A very attractive part of the display was a miniature model of the Kansas State Agricultural College dairy building, which was made of butter and in connection with this was shown all the various products made from skim milk, such as dried casein, glue, sizings, water paints, milk sugar, etc. The amount of starch, protein, and fat contained in 100 pounds of alfalfa hay, prairie hay, clover hay, corn, linseed meal, and bran was also shown.

The exhibit excelled in extensiveness any display that has ever been erected at any State fair west of the Mississippi river. The management of the fair considered it one of the most attractive exhibits ever displayed on their fair grounds.

The Agricultural College deserves much credit in taking advantage of the opportunity, and making the best exhibit they could under the circumstances. The dairy at the college is well equipped and has been doing much good for the dairy business of the agricultural industry of Kansas.

SORE NECKS ON HORSES.

The most of the machinery now used on the farm is balanced by the tongue, and consequently a great deal of weight comes on the horse's neck, which is liable to get sore during the hot weather. I know how disagreeable it is to drive a horse with a sore neck, besides the pain and annoyance it gives the horse, writes Forest Henry in Northwestern Agriculturist. I find that the trouble can usually be avoided by observing the following rules: Never check the horse while at work so he cannot lower his head and work the collar front slightly while standing. You will always notice that it is the horse that carries his head high that is most liable to get a sore neck. See that the collar fits the neck of the horse so that it will not work from side to side as he walks. See also that it is not too short. A short collar is sure to make a sore neck in warm weather.

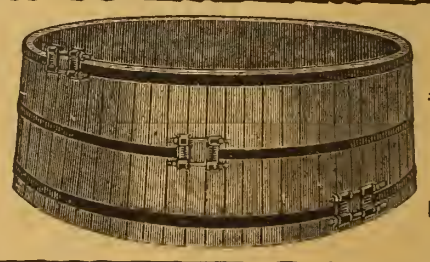
See that the hames fit the collar. A hame that has to be let out by lengthening the strap at the top is also liable to make a sore neck. As the horse pulls the hames will spread on such a fit, pulling the collar together endwise and spreading it at the same time so it will work back and forth and is sure to cause trouble. For this reason I prefer the high hame to the short one. With the short hame any alteration has to be made by lengthening or shortening the strap, while it is the hame that should be shortened or lengthened. I have found a sole-leather pad that is very generally used a very good pad for the top of the collar. A pad made of deerskin and heavy harness leather is excellent, where the collar is long enough to admit of its use. It requires a collar an inch longer where it is used than with the leather pad.

A sore neck is usually preceded by

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

Sharples TUBULAR CREAM SEPARATORS
WHICH DO YOU WANT?
Tubular or Bucket Bowl?
Simple Bowl or Complicated?
Izzers or Hasbeens?
Waist Low Can or Head High Can?
Self Oiling or Oil Yourself?
Wash 3 Minutes or Wash Thirty?
All the Butter or Most All?
Best Butter or Medium Butter?
Tubulars are different, very different. Just one Tubular—the Sharples. All others make bucket bowls—can't make Tubulars because they are patented. Ask for catalog Q-160.
THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

CLIFFORD'S ANTI LUMP JAW
Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing "Clifford's Anti Lump Jaw"—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.
Our Hog Cholera Remedy is guaranteed to cure. Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.
Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our Chicken Cholera and Roup Remedy will cure all diseases that the feathered fowl is heir to.
CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.


TANKS
Wine Tanks, Oil Tanks, Water Tanks. You can save money by getting my prices. My improved tank is easy to erect. A hammer and wrench are all the tools you need.
R. F. WILSON MANUFACTURING WORKS
STOCKTON, CAL

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. W. C. MARBLE, Secretary.
J. E. MARBLE. J. E. FISHBURN
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DE LAVAL SEPARATORS
AND OUR LINE OF DAIRY AND CREAMERY MACHINERY
are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

Riverside Herd of Holsteins
CALIFORNIA'S FINEST
Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.
PIERCE LAND AND STOCK CO.
RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON
884 James Flood Bldg., San Francisco
When writing advertisers mention Cultivator.

a bunch coming on the top of the neck where the collar rests. If this is left and the horse worked it soon becomes a deep seated sore, causing no end of trouble. If this bunch is noticed the first day it appears it can be entirely removed and the horse worked continually if the cause of the trouble is removed and the hump treated with oil of spike every night and morning. It pays to look after the welfare of the horse, as he is our main dependence during the rushing work of summer, and a horse with a sore neck cannot do his work easily nor as satisfactorily as though he were sound. It never pays to overdo a horse when the weather is excessively warm, as he is almost sure to get sore shoulders or a sore neck, no matter how well his collar fits, if his blood gets overheated. It will often pay to give a horse a pail of water between meals in very warm weather. It may mean some work; but it will pay in the long run to not neglect anything that will add to the comfort of the hard-worked animal.

FEEDING FARM HORSES.

Information regarding the feeding and management of horses is presented, some of the data being based on the experience of the Utah Station. The principal points are thus summarized:

"The amount of hay fed to horses on the average farm can be very materially reduced, and if this be done it will result in (a) great financial saving to the State, and (b) the elimination of many digestive disorders to which our horses are subject.

"Horses should receive most of the hay at night, very little in the morning and none at all for the noon meal. Always water before feeding. Oats make the best grain feed for horses, but these can be replaced by bran and shorts, or supplemented by corn.

"Carrots and sugar-beet pulp have a marked beneficial effect in horse-feeding, serving as a laxative and a tonic, as well as enabling the horse to digest the hay and grain more effectively. Horses may eat as much as 40 pounds of sugar-beet pulp daily."—L. A. Merrill, Utah Farmers' Inst.

THE CITY MAN AND THE CALF.

We bought a little place of forty acres, a convenient little house and a small barn. Our family at the outset consisted of myself, my wife, my daughter Nellie, aged 18; my son Robert, aged 15; one horse, Billy, of uncertain age, and two cows, Molly and Betty, the number of whose years I never cared to inquire.

As I said before, I had no doubt of my ability to run the farm. As a matter of fact, though, for the first year that farm ran me. It ran me into debt, too, but the next year it ran me out of it, and now I can afford to look back and laugh at my experiences, for I can see myself as my neighbors saw me at that time.

I had figured out an extravagant profit to be made from those two cows. In my calculation, however, I had assumed that they would give milk all the year round. Consequently, my estimates were somewhat broken up when Molly went dry, and a little later presented an addition to our family.

That calf was indeed a problem. I left him with his mother for two weeks, but I begrudged him every swallow of milk that went down his greedy throat. But I didn't know what to do with him. I decided at the end of two weeks, however, that the troublesome youngster was old enough to take his meals from a pail, and I set a tempting display of lacteal fluid in which was a liberal supply of bran, before him. He looked at it, sniffed, looked at me and backed away. I caught him by his two long ears and pulled him up to the pail again. As soon as I released him he began another retreat. I reached for him again, but he made a sudden shift sideways, and I came down on my hands and knees with one arm up to the elbow in the pail of milk.

Then I arose in my wrath and seized that calf. I placed my hand on his head and pushed his nose into the milk up to the eyes. But he wouldn't drink. When I feared he was about to smother I released his head, which came up dripping and white, the thick cream forming a fascinating semi-circle just under the reproachful eyes, which he lifted up to mine, while he gave vent to a long and vigorous verbal remonstrance.

At this critical juncture there appeared upon the scene my son Robert, and that young hopeful had in his hand a piece of old garden hose about ten feet long. "I'll tell you how to make that calf drink this," he said "Just make a siphon with the hose and put one end in the animal's mouth and the other end in the milk pail."

"My boy," I said, "you are certainly a chip off the old block, for you are a genius."

We put the pail of milk on the stairs leading up to the hay loft and Bobbie held the hose while I caught his calf-ship.

I got behind and shoved the refractory beast to the foot of the stairs, and after considerable labor inserted the hose.

The milky stream began to flow. The calf began to gasp and his eyes rolled until they looked like two glass agates. He tried to bolt, but I held him fast.

The milk trickled out the corners of his mouth and ran down to the floor. But the obstinate animal wouldn't swallow. He chocked and gasped, but wouldn't let a drop go down his throat. I just determined to push the hose down into his stomach when something happened. The calf closed his teeth on that hose and suddenly lay down. Robert was not prepared for that move. The pail of milk came over in answer to the pull on the hose, and I found myself a moment later emerging from a most unexpected shower bath in sticky, bran-thickened milk.

It was aggravating, I must admit, and I am afraid that only the presence of Robert prevented the use of some rather strong language.

A moment later, however, a rotund face appeared in the barn door and a hearty voice inquired, "Any calves to sell?" Well, didn't that question fall pleasantly on my ears! I certainly had one calf that I would be only too glad to sell. I had almost reached a state of mind when I would have given the animal away.

"You can have this one," I exclaimed, breathless, as I wiped the cream out of my whiskers.

"How old is he?" was the next inquiry.

"Oh, old enough for veal," I answered.

"All right," the visitor said, a twinkle in his eye, "I'll give you $6 for him."

"The beast is yours," I responded, with fervor, and it was with a sigh of relief that I saw him disappearing down the driveway, the unfortunate captive bawling a lusty protest against the separation from the commissary department with which he had become so familiar.

It was some time later that I saw a neighbor teach a calf to drink by thrusting his fingers, moistened with the milk into the sides of the animal's mouth, and in that way gradually induce him to take nourishment. A little while after I tried the same plan, but not very successfully, and it was fully a year before I learned that if you allow a calf to get good and hungry it is a very simple matter to teach him to drink. I had been foolish enough to think that a calf had sufficient brains to acquire the habit by an intellectual process.—American Cultivator.

INDICATIONS OF PURITY.

In the matter of live stock mere color is too often taken as a guide in determining the merits as well as the price of the thoroughbreds, says the Philadelphia Record. When confined to thoroughbred poultry, where the markings have so much to do with the price to a fancier, the case is somewhat different, and it may be well enough to be governed to a great extent by those markings, or "points," laid down in the "standard;" but when considering the larger breeds of stock, —cattle, horses, etc., it is not the best policy to adhere too closely to any mere fashionable color or marking, for it does not alter the economic—the real—value one iota. No matter if a horse does have a "blaze face and three white feet," if he can trot low down in the teens and the would-be purchaser desires speed, a high price can always be secured for him. Even if a Jersey cow is "off color" and does not have the "black tongue and switch," provided she not only pro-

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

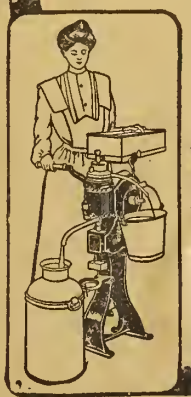
For Catarrhal Fever
Pink Eye, Distemper and all diseases Nose and Throat
Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1 00 per box, ½ doz. $5.00. Sold by druggists, or sent express paid
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

YOUR MONEY BACK - QUICK
5 Cows and a U. S. made $45.00 month
7 Cows but no U. S. made $11.00 month
The U. S. makes the difference $34.00 month
STAUNTON, ILL., SEPT. 25, 1905.
I hereby certify that on April 20th, 1903, I bought of your agent one of your No. 7 U. S. Cream Separators, and after using it for more than two years, I am more than satisfied. In 1902 I sold the milk of my seven cows to the creamery and realized from said cows an average of $11.00 per month. From the herd in the spring of 1903 I sold two of the seven cows and milked the other five, and my income from the five cows was $45.00 per month, a difference of $34.00 in favor of the U. S. Separator. If necessary I will make affidavit as to this statement.
E. D. BRUCE.

Now, how quick did Mr. Bruce get his money back? Well, the *extra* profits alone paid for his U. S. in just about 10 weeks. Many thousands of satisfied users prove the
U. S. CREAM SEPARATOR,
Which Holds World's Record for Close Skimming
is the most profitable separator a farmer can buy. It does the best work the longest time with least trouble and smallest expense, and it
PAYS FOR ITSELF - QUICK
Send for free catalogue No. 550 F that tells plainly the reasons why.
VERMONT FARM MACHINE CO., Bellows Falls, Vt.
18 Distributing Warehouses throughout the United States and Canada 421
Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

duces extra fine calves, but is an exceptionally good and heavy butter producer, she will always bring a good price if the owner can be induced to part with her, which is not often the case. To secure uniformity of breed characteristics it may be well enough to adopt certain marks and colors in some kind of live stock, but it is, and has been, carried to an extreme and in nothing more so than in poultry as well as in Jersey cattle. What should be desired is an animal bred for "business" first and after may follow the "fancy points."

IMPORTED MILKING GOATS.

The Department of Agriculture has imported from the island of Malta a herd of 68 milking goats. These animals have arrived at New York and are now in quarantine awaiting inspection. They will be taken to the Connecticut experiment station, where they will be fed, milked and propagated under scientific conditions. The young will be distributed throughout the experiment stations of the different States. In a statement, Secretary Wilson says:

"The milking goat has been neglected in the United States. Goats are almost entirely free from tuberculosis. Their milk is peculiarly adapted to children, resembling human milk more than that of any other animal. It is also valuable for invalids. People who cannot keep a cow may keep a goat."

The herd was selected by G. F. Thompson, a special agent of the department. The goats average about three quarts of milk daily.

SANITARY DAIRY LAW.

Editor Cultivator:—Will you give the text of the Sanitary Dairy Law as it was passed last winter. But more especially that provision which refers to adulterating milk.—G. B. S., San Jose.

The full text of the law is too lengthy for publication in these columns. A copy of the Act, Statutes of 1905, may be had by writing the State Dairy Bureau at Sacramento.

Section 4, of the statute, makes it an offense to use any compound in the milk containing salicylic acid, formaldehyde, coloring matter or any other chemical preparation other than salt or sodium chloride to prevent fermentation.

Neither shall gelatine be added to milk or cream, nor any other substance to make it appear better in quality or to give it a richer look. In the Cultivator this week, appears certain provisions of the law as construed by the State Dairy Bureau.

STATE DAIRY BUREAU ACTIVE.

About five months ago the State Dairy Bureau inaugurated a campaign among the dairymen of this State, to enforce the law created by the last Legislature entitled and known as the "Sanitary Dairy Law."

Prior to the passage of this act, the great majority of the dairies in California paid little attention to sanitary provisions. The law was enacted as an emergency measure and the inspectors were charged, upon appointment, with the duty of enforcing the statute.

Some of the dairymen readily responded to the notice to "clean up," but others do not. Now, the Cultivator is advised that prosecutions will be begun against every dairyman who fails to comply with the notice sent him, within thirty days from its receipt, to put his premises in order as the law provides.

In order that the dairymen throughout the State may understand just what is expected of them, the Cultivator deems it best to embody the construction of the law by the State Dairy Bureau. Those which relate to cleaning the dairy and surroundings are as follows:

* * *

The water used by the cows and otherwise in connection with the dairy must not be stagnant or in any way liable to contamination from drainage, manure, urine or decaying animal or vegetable matter. It should be pumped from a deep well located outside of cow yards, or otherwise located so that it may not become contaminated, or from a flowing uncontaminated stream.

The yard in which cows are kept must be free from mud or dust.

Manure must not be permitted to accumulate in cow yards.

Stables must be clean and as free as possible from manure, urine and other dirt.

Stables must be whitewashed at least once in two years.

No decaying food or other decaying or foul material must be allowed in mangers and feed boxes.

Milking pails, coolers, strainers and cans and all articles coming in contact with milk must be thoroughly clean, including sterilizing or scalding with boiling water or steam under pressure.

The body, and especially the hands, of milkers and others coming in contact with milk must be clean.

The clothing of milkers and others coming in contact with milk must be clean.

MANGEL-WURZEL AS FOOD FOR CATTLE.

What would be the relative feeding value of mangel-wurzels and golden tankard for cows testing about 5 per cent butter fat. Would stock sugar beets, as Lane's Imperial or White Silesian be better, and would the extra quality compensate for smaller crop and greater labor of harvesting?—L. B., Long Beach.

Answering the first of the above questions I would say that there is very little difference in the feeding value of the ordinary mangel-wurzel and the golden tankard, as the following analyses will show:

	Golden Tankard.	Mangel.
Water	91.98	90.90
Protein	1.40	1.40
Fat	.08	.20
Crude Fiber	.65	.90
Starch, sugar, etc	4.97	5.50
Ash	.92	1.10
	100.00	100.00

Doubtless different samples would show slight variations from these figures, but not sufficient to materially affect the relative value.

Prof. Roberts, of Cornell station, conducted an experment along the line suggested by the second question.

Five different varieties of sugar beets were used in the tests, one row for each variety, and three rows of mangels. The yield was as follows:

Five varieties of sugar beets averaged 23 tons to the acre.

Three rows of Long Red Mangels averaged 31 tons to the acre.

A difference of 36 per cent in favor of mangels, though one variety of sugar beets yielded considerably more than the mangels. Moreover it is twice the labor to harvest the sugar beet, so it would seem clear that if the roots are to be raised for feeding purposes, so far as the yield is concerned mangels are much to be preferred to sugar beets. Below is shown average composition of the sugar beets and mangels:

	Sugar Beets.	Mangels.
Water	85.05	90.90
Protein	1.12	1.40
Fat	.10	.20
Crude Fiber	.95	.90
Starch, sugar, etc	12.00	5.50
Ash	.78	1.10
	100.00	100.00

It will be seen that the main differences between the two lie in the water and carbohydrate content. The sugar beets being richer in sugar, and therefore weight for weight these have a higher nutritive value than the mangels, but the amount of total dry matter, as shown by the analyses, indicate that the yield per acre is practically the same for both feeds; the figures being 3.19 and 3.04 tons respectively. Again, sugar beets will, if fed in large quantities, tend to induce scouring. It would appear, therefore, from all the facts at our command, that the extra quality would not compensate for the smaller crop and greater labor in harvesting.—M. E. Jaffa, University of California.

Satisfaction or No Cost

The honest method of selling. We could fill this paper with testimonials of how Security Stock Food has made money for others. We prefer to prove what it will do for you.

Use **Security Stock Food** (glutenized) for growing animals; for fattening animals; for work horses; for milch cows. The Food won't cost you a cent if you can't see that **Security Stock Food** has saved feed, made quicker growth; kept your animals in better condition, given more milk, and made you more money. Write us if not satisfied and we will refund price in full. You are the sole judge. No questions asked.

For five years this guarantee has been on every package sold. It also covers Security Poultry Food, Lice Killer, Gall Cure, Colic Cure, Worm Powder, Calf Food, Heave Remedy, Healer and Rheumatic Liniment. Security preparations are sold by dealers in almost every town in the United States, who will recommend them highly and "back up" our guarantee.

SECURITY IS THE ONLY GLUTENIZED STOCK FOOD.

SECURITY STOCK FOOD CO.
MINNEAPOLIS, MINN.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***If not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.

VENADERA HERD
OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD
JEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of Imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

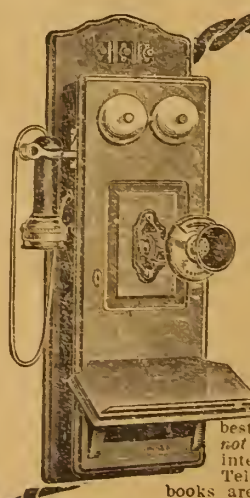
La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want.

J. A. CAMPBELL, Buena Park, Cal.



A Telephone for the Country Home

The telephone in the country home is not a luxury—it's a money-saving investment that brings returns every day. Keeps the farmer's family in close relation with the neighbors, saves many a trip to town, and helps to make the young folks satisfied with the farm by giving them advantages like their city cousins.

Stromberg-Carlson Telephones

Are the right telephones for country homes. They work right, *stay right*, and the price is right. Our new book 71-E, "How the Telephone Helps the Farmer," illustrates and describes how our telephones are made- explains why they are the best to buy. Farmers are building lines all over the land. *Why not you?* The book shows how cheaply it can be done. If you are interested we will send you a book telling "How to Build a Rural Telephone Line," and how to maintain it after it is built. Both books are *free*. Write nearest office for them *today*. Address

STROMBERG-CARLSON TEL. MFG. CO., Rochester, N. Y., Chicago, Ill.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

THE STORY OF A BEET COMPARED TO A HEN.

"Live and learn" has always been a favorite proverb of mine, and I am just now learning some things new to me which are so interesting that although they do not exactly bear upon the poultry business, will, I am sure, prove instructive to readers of the Cultivator.

I am visiting friends near Spokane, Wash. (I hope, however, to be home in Hollywood next week). My friends are seed growers, selling seeds by the carload lot or ton, carrots, turnips, peas, radishes, beets, etc., besides great quanties of seeds of beautiful flowers.

Their methods are (just like the progressive poultry breeders) to get the best seed to commence with and then go on improving that breed, or I should say, that kind.

The Government sends an expert to test their plants and seeds, and here let me say we can scarcely be grateful enough to our excellent Secretary Wilson, of the Agricultural Department, for the work done to promote the welfare of the farmers, and for the Farmers' Bulletins which are sent out to all who ask for them. I frequently advise our readers to send for some of them, especially the one on poultry foods, (Bulletin 164) issued at Berkeley, which can be had by sending a postal to ask for it.

* * *

The story of the development of one plant here, the sugar beet, is such a good illustration of the way to develop poultry that I am tempted to step down from our "feathery kingdom" and tell it as I, an outsider, see it, apologizing to the Agricultural Department of the Cultivator if I am trespassing.

About twelve years ago my friend to whom I referred above, sent to different countries in Europe for seed of the best sugar beets, the most sugary he could hear of; he wanted to find the beet that would produce the most sugar and would therefore pay the best in this country, just as we want the breed of hen that will produce the most eggs. These seeds he planted in separate colonies, each variety by itself, to discover which would produce the most tonnage to the acre, and also which contained the most sugar to the beet, just the progressive poultry man's plan.

At first there were no government experts here. Sample beets were sent to the Agricultural College to have the sugar contents analyzed, that he might compare the products of the different varieties. Some of the foreign seed he found well suited to this country, other seed not so good. He kept the best, and year by year he developed or bred up, as we should say, the best of the beets, so that from the beets which at first contained only about eighteen per cent of sugar he now has developed over twenty-six per cent. Fancy a beet more than one fourth of which is sugar!

I was attracted to asking questions by hearing something said about "the pedigreed beets." "Do you have "pedigreed beets?" asked I. "Yes, indeed," was the reply, "line-bred and pedigreed." "This is almost as interesting as the poultry business." "Well, now, let me tell you," said the beet breeder. "I can tell a high-testing beet by sight, just as you can tell a Standard-bred fowl; there is a great deal very similar, too, in the business. There is a difference in the texture of the leaves, whether fine or coarse, just as in the combs and wattles of fowls.; a difference in the way the leaves grow, whether upright or spread flat out, just as in the case of feathers on fowls, and then there is also the shape of the beet itself, comparing to your shape and carriage of fowls; and then there is the testing of the amount of sugar in each beet, just as you test the number of eggs laid by a hen, or as the farmer tests the butter fat in his cow's milk."

Another item of great interest to me, as a poultry breeder, is that the beet grown one year (a pullet) is tested (as we would a yearling hen's number of eggs) for sugar or saccharine content. This is done by taking a small piece out of the beet and analyzing it; if the test gives a high percentage that beet is labelled by the government expert with a copper label (as we would leg-brand a hen) and then is put aside to be planted in the spring for seed just as we keep over our best hens for two-year-old breeders.

These roots are planted the following year and kept as heads of families, and their offspring is kept year after year separate and is tested, some families becoming better and some deteriorating in sugar content or tonnage. Those that deteriorate are immediately discarded, the whole family being destroyed, just as the fowls should be.

The secret of success on this great seed farm is the thoroughness and painstaking used. My friend, besides being an expert himself, sent about eight years ago to France for an expert seedsman as foreman, and has spared neither money nor labor in developing the business on his several large farms.

One word more about the sugar beet. As I write I see from the window two huge fields, each containing over two million beets, grown only for seed, all grown with the utmost care.

* * *

The same energy used in building up a poultry plant, with the same methods and less capital would bring as great results, but the people think poultry raising so easy that they will not be as thorough or as careful, hence the failures.

* * *

Just as I close, a letter forwarded from the office of the Cultivator is at hand, from a lady who wants to know why she cannot hatch as many chickens in an incubator as a hen can. This is a very important matter, and a full answer to her letter may help others, so I will try to reply in next week's Cultivator as fully as possible.

CONSOLIDATED.

At the meeting of the Southern California Poultry Association last Tuesday evening, a propostition was made by the secretary of the old Los Angeles County Association, who was present, to surrender sufficient of the stock of the old Los Angeles County Association to give control of that organization to the members of the new association. This was practically accepted by the members present and referred to a committee or three to arrange the details of the consolidation, which it practically amounts to.

It is certainly hoped that this will be successfully carried through for the scrap which has been on since the termination of the old Los Angeles County Association show last January has not been to the advantage of the poultry industry of the southern end of the State. Besides, it has led to many statements, in print and otherwise, which have caused no little feeling and, at times, almost led to serious disruption on the part of old friends.

If the arrangements which were started on Tuesday evening are completed and the two organizations become one, it will mean a most successful show this coming January, instead of two, one of which would certainly have met with indifferent success. It has often been stated that the old association had the money and the coops for conducting a successful show while the new association had all the birds. Now the two together will insure the success desired. Mrs. Burbridge stated in her talk that the new arrangement would carry with it the tendering of her resignation as secretary and that she would be glad to affiliate and work for the new organization.

WHITE LEGHORNS
Eggs from pure white, trap nested, high-grade birds. Just a few cockerels for sale.
MRS. D. F. STONER, ONTARIO, CAL.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

Armour's Improved Beef Scraps

Armour's Improved Beef Scraps contain no bone, hair, wool or tankage and are a rich brown color

Henry Albers LOS 315 South Main St. ANGELES

DEAR EXPERIENCE.

The Deacon, writing of his experiences in poultry raising, thus summarizes the merits of the different breeds of fowls which he has tried:

I have tried almost every practical breed represented in the Standard, and a few not in it.

The list includes: Black Spanish, Black Minorcas, Brown and White Leghorns, Games, Light and Dark Brahmas, Buff and Partridge Cochins, Langshans, Houdans, Barred and White Plymouth Rocks, Silver and White Wyandottes, Rhode Island Reds, and White Wonders.

The Black Spanish was my first love. I was then a boy, and in those days they did not breed a large white face. Now the exhibition Spanish are, in my estimation, the homeliest, most unattractive specimens I ever saw. They have large white faces, and that just put them out of business. You hardly can find anyone breeding the Spanish. What a pity. It was a breed that at one time commanded much attention, and they bore the distinction of being layers of the largest eggs. Like all heavy layers—breeds of the Mediterranean class—they lay a white egg. But when fanciers called for a white face—and the larger the better—they crippled both the egg yield and the size of the egg.

I believe the advent of the Black Minorcas in this country hurt the White Face Black Spanish more than it did any other breed. The Black Minorca is of the Spanish family, and was at one time known as the Red Face Black Spanish. I liked this breed very much, but I could not dispose of the carcasses to advantage. The market called for yellow skinned birds, and I could not get a good price for my white-skinned birds, which despite the best of care in dressing, showed the dark pin-feathers.

So I stepped over to the Leghorns, securing several pens each of the Browns and Whites. They gave me good carcasses and very satisfactory returns. The Browns laid the most eggs, the Whites the largest. The Whites being larger bodied, and as I could keep but one variety at that time, I got rid of the Browns, although I liked them very much.

The White Leghorns gave me the best of satisfaction, and I hated to give them up, but I had to for two reasons.

1st. They were such great flyers, giving me all sorts of trouble on that score.

2nd. The young cockerels were always in mischief, and kept me continually watching them.

Then I tried the Games—both the Black Breasted Reds and the Irish Belfast. They were excellent table poultry, but very poor layers, and, besides, were always fighting. Even the hens would fight like tigers—I got rid of them.

Then I took to the Asiatics—the Dark and Light Brahmas, and the Buff and Partridge Cochins. I soon dropped the Dark Brahmas, as the Light variety gave me more eggs, bigger eggs, and seemed to be more of a business fowl. I was disappointed in the Buff Cochins on account of their poor laying, and the lazy look that they always had. I found the Partridge Chochins better than the Buffs in every practical sense, but the Light Brahmas gave me the best results of all; and I kept on breeding them for nearly ten years, until this season, which I will explain later on.

About the time that I chose the Light Brahmas, I decided to add another breed, so picked out the Black Langshans. I found it an excellent laying breed, giving a finely colored egg, and doing grand work during the winter. For table use, on my own table, I was more than pleased with them, but my customers wanted a yellow skinned carcass, and I was compelled to get rid of my black beauties.

Then I tried Houdans. These gave me a large white egg, and proved very good winter layers; but I found them susceptible to colds, owing to the crest on their heads. If they became very wet they invariably took colds in some form or other. Then I took up Barred and White Plymouth Rocks. I dropped the Barred because they were so easily over-fattened. But when in good condition they were first-class layers. Their meat was more coarse-grained than I liked, and as they were dressed showed dark pin feathers, I made the change to the White variety. They were better in many ways, but still not exactly what I wanted.

Rhode Island Reds came in for a trial, but their mongrel look rather discouraged me. It was so hard to have hens match in color. They are good layers and good table fowls, but I was not pleased with the general appearance they made on the place.

The White Wonders I found satisfactory, but the fact that they belonged to the American class and had feathered legs, made me discard them. It is certainly un-American to give an Asiatic appearance to our home varieties.

Silver and White Wyandottes finally were tried, and I soon found that at last I had reached my ideal of a practical utility fowl. I chose the White variety, although I found the Silvers excellent. The dark pin feathers was the only reason that I had for not preferring them. I have now for several years bred the whites, and am so well pleased with them that I sold my Light Brahmas to make more room for my last choice. I have found them to be the ideal broiler and the most saleable roaster. I have found them to be second to none as winter layers, and by proper mating have got them to producing a good brown egg of a size equal to the Plymouth Rock.

I am giving these opinions more to show the beginner what he can expect in the different breeds.

Injuries sometimes cause undesirable feathers to appear. This is not necessarily an indication of a faulty bird, and may all come right when through moulting.

HOW TO DRESS DUCKS.

Feed them nothing twelve to eighteen hours before killing, says C. S. Gorman of St. Clair county, Missouri, an expert in killing and dressing ducks. Hold the feet and tip of the wings, and, with a sharp hatchet, or, best of all, a corn knife, cut the head off neatly, leaving the neck as long as possible. Do not drop the duck till it stops bleeding, and then some one should be ready to pick it at once. Pick all the feathers fit to save as quickly as possible. Put these in one box and the refuse from tail and wings in another. Do not bother with the last joint of the wings nor do not attempt to get all the down.

Try to have the feathers all picked while the duck is still warm. This done, have ready a liberal supply of paper; set this on fire and singe all the down that remains and the feathers under the wings and elsewhere, which are so hard to pick clean. The duck will be a brown, sooty looking object.

Nearly fill a large pan with water as hot as the hand can bear, put in plenty of soap to make a strong suds, and with a clean cloth wash the duck thoroughly, and all trace of the smoke is removed and the skin is beautifully

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

I am offering some exceptional yearling breeding stock at a reduction for the next 30 days to make room for growing stock Prices on application.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

LEE'S EGG MAKER

25 lb. Pail, $2.00 WILL 2½ lb. Package, 25c

MAKE EGGS

Henry Albers Co., 315 So. Main St., Los Angeles, Cal.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

An Incubator

That you can depend upon for good hatches is ***Dean's Pacific.*** Send for "Facts from experience.

DEAN'S PLACE, 2509 Central Avenue, Los Angeles

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

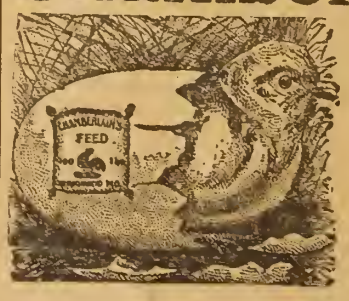
THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

Chamberlain's Perfect Chick Feed



World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Istributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

clear. Rinse in clear water, and if there are any pin feathers they will show clearly now and may be easily plucked out by the aid of a knife.

The aggregate value of honey and beeswax in 1900 was $6,665,000.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the Last Los Angeles Show Our Birds Won Twelve Prizes.
Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks
Duck Eggs, $1.00 per 13, $3 00 per 50, $5.00 per 100. Ducklings 10 days, old, 25c each. Ready now.

SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
—Circular Free—
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16 page circular free
Sonoma-American Incubator Co., - Petaluma, Cal.
Manufacturing Agents for Pacific Coast States

Mt. Whitney Poultry Yards
For Sale. Standard Bred Buff Orpington Cockerels, and Eggs for Hatching after December 1st.
C. Roth · · Clovis, Cal.

"The Hens That Pay Are the Hens That Lay"
In the Fall!
Three Buff Plymouth Rock pullets, hatched the first week in January and tested for egg production in July, laid 28 eggs in ten days and have been laying steadily ever since. A select pen of these pullets has been mated with a fine 2 year-old cock, and eggs for hatching will be sold at $1 50 per setting of thirteen. Address
F. W. Lewis 1616 E. Ocean Ave Long Beach, Cal.
Set your eggs now to raise next fall's layers.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

POULTRY NOTES.

Kerosene is one of the cheapest and most effective insect destroyer for the poultry house. Use it freely and often.

Hens differ as much in laying eggs as cows in giving milk. Good cows produce good calves, good hens produce good layers.

An ideal henhouse should have plenty of glass windows through which the sun can shine. The house should be open on the south and closed on the north.

Heavy fowls should not roost on high perches. They hurt their feet when they fly down, and young fowls will strike their breast bones and injure them.

Fowls do not run together in large numbers. They will always divide into flocks of small size and will select different feeding grounds, always provided they have the opportunity.

A growing chicken, like a growing animal, requires plenty of good, wholesome food supplied liberally and often in order to enable it to grow and mature rapidly and to develop properly.

We note that one chicken fancier gives his young chicks nothing but sand and water for their first feed. When 24 to 36 hours old he gives corn meal and water. He feeds little mushy foods.

The top notch of quality in the demand for good poultry has never been reached. The demand for the best has never been supplied. There is no danger of getting it too good, but it often suffers from being off in quality.

Charcoal is an excellent thing for fowls, whether in confinement or running at large. It is inexpensive and so easily provided that no flock should be permitted to be without it. Let it be granulated and placed where the birds can readily have access to it.

In selecting the hens to be kept for breeders take those with small, smooth and neat heads, well-developed combs, bright eyes and nice tapering necks, long and deep bodies, active movements, vigorous in constitution and good layers, advises N. J. Shepherd, in Kansas Farmer.

Eggs in winter mean good prices and good profits, and one aid in securing them is to select the best of the early hatched pullets and the one-year old hens that moult early and keep them especially for the purpose, providing them with dry, comfortable quarters and feeding so as to keep in a good, thrifty condition.

The production of eggs is a great drain on the fowl's system, and during the laying season about one-half of the whole amount of nourishment taken into the fowl's crop is used in the production of eggs, and it is essential to see that they are supplied with plenty of the proper kind of food for egg production.

A flat perch is best, because of being more comfortable to the feet and best support to the breast when the chicken is sitting down. Arrange them far enough from the door to avoid a direct draft, on a level and not over three feet from the ground, and so arrange them that they can be readily taken down to be cleaned.

For swelled head and eyes in fowls a saturated solution of boraic acid applied with a soft sponge is one of the best remedies known. A teaspoonful poured down the throat twice a day is an excellent remedy for roup, while a mixture of equal parts of the powdered boracic acid and borax—a teaspoonful twice a day—is given as a good remedy for cholera.

While charred bones as well as charred corn is given poultry for the sake of the charcoal, which is wholesome for them, purifying the blood and aiding digestion, this charred stuff does not contain the food value of ground raw bone on account of the animal oils contained in the latter, which are consumed in the charring process. Fresh bones, when ground, are the most valuable, being full of animal matter.

The New Mexico Station says that there is no certain cure for cholera. Kill, burn or bury diseased fowls. Remove the well to new quarters, while the old resorts are often sprayed with a solution of one gallon crude carbolic acid to 20 gallons water. Use plenty of whitewash. In the drink put ½ teaspoon camphor spirits and ¼ ounce sulphocarbolate of zinc to one quart of water. Cleanliness is the great preventive. Symptoms are excessive thirst, yellow-green diarrhoea, ruffled plumage, etc.

WHY DOES A HEN CACKLE?

The reason commonly advanced is she wants to advertise her achievements to all the world. The Feather says that the cackle is a relic of long by-gone days when fowls were not domesticated and ran about wild. When a hen wished to lay she retired from the rest of the fowl community and performed her task. By the time she was ready to join the commonwealth the other members had wandered some distance and she did not know where they were. She waited till she had gone some distance from the egg, in order not to endanger it, and then she cackled, after also having taken a good look around to assure herself that no enemies were near. The rooster, hearing the cackle, answered it by a crow, and thus informed the hen of the whereabouts of the tribe. This sort of thing may be seen now among the ancestors of our domestic fowl in the Malay countries and India. Some poultry fanciers say that even now there are many cases in which a bird gets clear of the hen house and well out into the field before lifting up her voice. There is another point in support of the Feather's argument. When a broody hen, which is about to be set, or has been lately set, is alarmed, or discovers that she is in new surroundings, she frequently completely stops her cluck-clucking for a few minutes and cackles exactly like a hen which has just laid an egg. —Nor'-West Farmer.

* * *

[There is a chicken language that ordinary men do not understand. Close study would prove the hen that cackles because she is alarmed does not use the same chicken talk she does when she lays an egg. Other hens in hearing will join in the alarm call but never in the cackle of the egg-layer. Doubtless some domestic hens get a good ways from the nest before they cackle because they are ashamed of the size of the egg they have laid when eggs are 42 cents a dozen.]

The Board of Regents have stirred up a large-sized and active hornets nest by their announcement of the closing of the Tulare Experimental Station. The people of that section are organizing to put up a strong fight in the matter.

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

BRUISED TEAT.

Editor Cultivator: About six weeks ago my cow began giving bloody milk out of one teat. sometimes once or twice in succession and then perhaps no more for a week or ten days. In the center of the teat there is a small lump about the size of a small pea. The lump is not hard nor very soft. She has had kind treatment and has not been hurt that I know of. She has had her second calf and will be fresh again in January.

If you will answer through the columns of your valuable paper I will be greatly obliged to you.—L. H. B., Lordsburg.

Your cow has bruised the teat, very probably in laying down or getting up. If you dry her up a month before calving which is the custom, nature may restore the parts. A little Campo Phenique rubbed in over the part twice a day will greatly assist. P. S.—Have teat perfectly dry when you apply it.

BLOODY MIK.

Editor Cultivator: What is the cause of a reddish liquid settling in the bottom of a milk pan after the milk has stood several hours?—J. J., San Martin.

Give a change of diet, and wash the udder with a good antiseptic, this destroys the micro-organisms on the surface. Give her 1 ounce Hyposulphite soda in feed daily.

ECZEMA.

Editor Cultivator: Can you tell me what ails my cow. The ailment began on her legs. It looks like wrinkles, which run half way round the back part of front legs; she will lick them until they will bleed. She has made a solid sore from her knees down to the first joint above he hoof. An examination of the raised places showed a thick mass of dried scurf. The disease has attacked her shoulders, at the root of the tail, and along the navel cord.—C. D. B., Long Beach.

Your cow has eczema. Wash thoroughly all affected parts and apply the following: Kreso Dip 3 ounces to quart of water, rub this into all effected parts every few days. Give internally in mash daily: Sulphur 1 1-2 pounds, nit. potash 1 pound. Mix Give tablespoonful each feed.

RHEUMATISM.

Editor Cultivator: I have a hog or shoat that has lost the use of his fore feet, or nearly so, can walk on them but would rather walk on his knees. It came on gradually, swellings like lumps have come clear to his hoofs and knees. Lumps are soft. I have bathed in hot water and soap and rubbed hard, but it did no good. What would you suggest. The hog eats well and is fat. Please answer through Cultivator.—W. D. G., Buena Park.

This is a rheumatic condition of the joints. Use the following treatment freely twice a day. Gum camphor 1 ounce, alcohol 8 ounces, witch hazel 8 ounces.

General Agricultural Notes

IMPROVING OUR WHEAT.

A great deal of attention is now being given, especially by scientists to the quality of California wheat, and we are told that it lacks in gluten and other desirable qualities, and that we can only hope to improve it by breeding a class of wheat containing more gluten, and state appropriations are eagerly sought by our scientists for this purpose. For nearly half a century California was the granary of the world. The wheat grown in this State was the best in the world; it contained gluten and every other desirable quality, the soil produced enormous crops, and the wheat farmers grew rich. For years the stubble was burned on the ground, the soil was plowed from three to six inches deep and the same land was cropped to wheat year after year, with continually decreasing yields and inferior grain. Now we are told that we must breed a new wheat suited to California conditions in order to restore our prestige as a wheat state. How would it do to try rotation of crops, deep plowing and fertilization, restore to the soil some of the qualities of which we have industriously robbed it until there is no more left? It might be cheaper and more effective than making big appropriations for scientists to produce new varieties.

NEW PLANTS FOR ARID REGIONS.

Dr. Fairchild, an agricultural explorer, and in charge of the work of introduction of new seeds and plants, says that the greatest surprises will be in the utilization of what are now considered desert lands, for the growing of special arid land crops requiring but a fraction of the moisture necessary for the growth of ordinary plants such as corn and wheat. "We are finding new plants," he said, "from the far table lands of Turkestan and the steppes of Russia and Siberia, which grow luxuriously under certain conditions of aridity that the crops of Mississippi valley farms would wither and die as though scorched by a sirocco."

Macaroni wheat affords a good instance of a crop that is capable of revolutionizing the values of tens of millions of acres of arid land.

"The macaroni wheat belt," said Mark A. Carleton, cereal specialist of the Bureau of Plant Industry, "extends, on an average, the width of the United States and from the 98th to well beyond the 102d meridian, with a general yielding capacity for half of this vast area of thirty bushels per acre, and of the other half of fifteen bushels.

"Macaroni wheat will grow with ten inches of rainfall and yield fifteen bushels to the acre, where ordinary wheat is an absolute failure. This is two bushels more than the average wheat yield of the United States. There are many other crops with as great possibilities and which thrive on but slight moisture, including splendid forage plants. I might mention Kaffir corn, the sorghums, millet, brome grass, as well as new kinds of oats and barleys of wonderful drought-resisting powers, the emmer or speltz and lots of others. We are constantly finding new grains and forage plants in the Caucasus, in Algeria, Turkestan and other dry countries which will bring under cultivation immense areas of the great American desert, now looked upon as absolutely unfit for agriculture. It is a somewhat singular thing that no men are as skeptical of the reality of these facts as the residents of this region, but our experiments have already proved what I have said to be actual facts, not theories."

Dr. Harvey Wiley, the agricultural chief chemist, says that the sorghums form a very fine stock feed, and that their cultivation along with the millets and other desert crops, where corn is an entire failure, insures a vast future development for that great section.

Improved methods of culture and tillage in connection with the planting of these hardy drought crops will change the face of nature throughout entire states.

INSTRUCTIONS CONCERNING FOREST FIRES.

Forest fires are almost always unnecessary. They usually result from failure to realize that carelessness will be followed by injury and distress to others. The resident or traveler in forest regions who takes every precaution not to let fire escape, and who is active in extinguishing fires which he discovers, contributes directly to the development and wealth of the country and to the personal profit and safety of himself and his neighbors. He who does not, assumes a great responsibility by endangering not only his own welfare, but that of countless others.

Care with small fires is the best preventive of large ones. The following simple rules may easily be observed by all:

1. Never drop burning matches or tobacco where there is anything to catch fire.

2. Camp fires should be as small as will serve.

3. Fire should not be built in leaves, rotten wood or other places where it is likely to spread.

4. Fire should not be built against large or hollow logs, where it is difficult to be sure when it is completely out.

5. In windy weather and in dangerous places, camp fires should be confined in holes, or by clearing all vegetable matter from the ground around them.

6. A fire must never be left, even for a short time, before it is completely extinguished.

7. Except as specifically permitted by law for logging redwood or back firing, fire or explosives must not be used to clear land during the dry season without permission from an authorized fire warden.

8. No engines or boilers using fuel other than oil may be operated near forest, brush or grass lands, unless provided with spark arresters and fire box protectors.

The last three of the above rules are law, and their infraction are directly punishable. Failure to observe the others will be considered willful negligence, should the fire escape and spread.

Any person discovering a fire too large to be put out at once, should immediately seek help in the vicinity, and, if necessary, notify the nearest fire warden. If no fire warden is available, the local justice of the peace, constable or road overseer should be called upon. All of these officers are authorized to call upon able-bodied citizens for assistance. Failure upon the part of any person who allows a fire to get beyond his control to take every practical step to secure assistance will be considered willful negligence.

The best tools for fighting fire are the shovel, mattock and ax.

If possible, a fire should be stopped or checked by plowing, trenching, or the use of earth; but if this is impracticable, back-firing may be resorted to. The use of back fires is attended with danger of useless burning and loss of control, therefore they should never be set by inexperienced persons except in great emergencies. If a fire warden can be reached in time, such measures should be left to his judgment; if not, and the fire is large, an experienced leader should be chosen to direct the work, and his directions followed, so that there may be no loss through unorganized effort.

Back fires should always be set from a road, stream, cleared space or natural fire line. Since fire rushes up hill, and is checked by air currents at the crest, and usually works down hill slowly, it should be attacked from the top of a ridge if possible. If it is burning down hill, endeavor to meet it before it reaches the bottom. If it is working up hill rapidly, it seldom pays to try to stop it before it reaches the top.

The night or early morning hours are the best time to work, when any choice exists, for nearly all forest fires die down more or less at night and spring up during the heat of the day.

Never trust a fire which is smouldering or "under control." Continue work until it is out, if possible. If not, watch it closely for fear wind or drying weather will cause it to break out again.

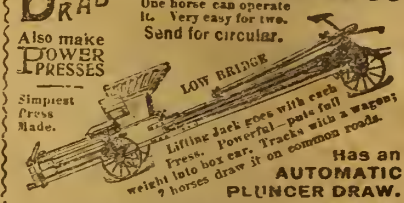
Protect valuable timber rather than brush or waste.

Young trees suffer more from fire than old ones.

THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

Make Your Own Fertilizer
at Small Cost with
Wilson's Phosphate Mills

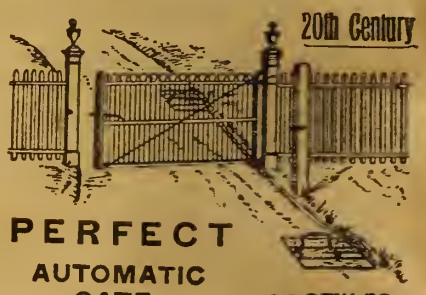
From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue.
WILSON BROS., Sole Mfrs.,
Dept. Easton, Pa.

DOUBLE CAM BRADLEY STEEL HAY PRESS
One horse can operate it. Very easy for two.
Send for circular.
Also make POWER PRESSES


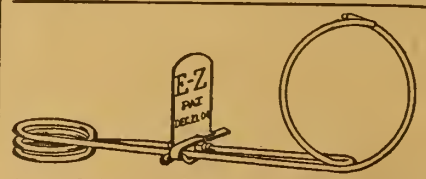
Simplest Press Made.
Liftline Jack goes with each Press. Powerful—puts full weight into box car. Tracks with 2 wagons; 2 horses draw it on common roads.
Has an AUTOMATIC PLUNGER DRAW.
DAVID BRADLEY MFG. CO., 154 E. Broadway BRADLEY, ILL.

Stump and Tree Pullers
Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1½ minutes. 1 to 5 acres at a setting. Different sizes to suit all kinds of clearings. For illustrated catalog address
Powerful, Handy, Low Priced.

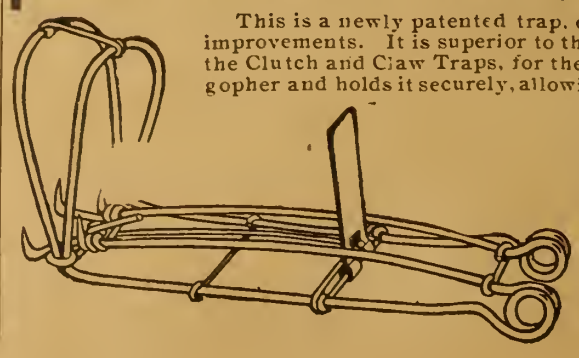
Milne Mfg. Co. 977 Ninth St., Monmouth, Ill.


20th Century
PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. Works 365 days each year. NO OILING—ten minutes each year and 10 to 20 cents expense—no more.
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California

Ranch for Sale
To close an estate, we offer 33 acres 2 miles east and ½ mile north of Compton, for sale. Choice Alfalfa land. Best artesian well in that section. Water to sell. Address
Phone Main 922 C. F. LEE, Pasadena, Cal.



Ask Your Dealer
for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

TRAPPED TO STAY TRAPPED
The trouble with most gopher traps is that they permit the rodent to escape after the trap has been sprung. This not only makes the old style traps worthless, but prevents the recapture of the gopher. The only sure means of destroying gophers is with the
Improved C. V. 2-Ring Gopher Tra

This is a newly patented trap, embodying all the latest improvements. It is superior to the Single ring, as well as the Clutch and Claw Traps, for the double ring disables the gopher and holds it securely, allowing no chance for escape.
See that you get the genuine Improved C. V. 2-Ring. Sold everywhere for 25c; or if your dealer does not have them, send us his name and 25c for sample trap or $2.50 for a dozen, which we will forward postpaid.
Falls Manufacturing Co.
14 Drumm St., San Francisco

U. S. Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, Oct. 23.

General Summary.—Dry and generally clear weather prevailed during the past week, except light showers along the southern coast on Saturday and Sunday nights. Light frosts occurred quite generally in the northern portion of the State on the 18th and 19th, but caused no damage. Throughout the interior of the State the conditions were excellent for fruit drying and raisin making and rapid progress was made with both. The raisin harvest is now nearly all over in all districts; the yield was good and the quality excellent. Citrus fruits are making good growth in all sections. Oranges are developing rapidly and promise a large crop of superior quality. In portions of the San Joaquin valley they have begun to color.

Large shipments of Tokay grapes continue from the American river district. Wineries are generally running to their full capacity. The apple crop will be large and of good quality. Walnuts are maturing slowly in the southern part of the State, and the harvest has commenced in San Luis Obispo county. The crop will be good. The bean crop is nearly all harvested, and is large and of good quality. In the San Diego district the yield of guavas is excellent, and is superior to that of last year both in quantity and quality. The honey yield is good.

Plowing and seeding are progressing in the northern part of the State. Dry feed is plentiful in the San Joaquin valley, but getting poor in other districts. Stock are healthy and generally in good condition. Rain is badly needed in all districts.

Eureka Summary.—The weather was dry and clear with frosty mornings. Plowing continues and some seeding is in progress, but the ground is getting dry and rain is much needed. Large shipments of apples and peas continue.

Los Angeles Summary.—The weather during the week was cool with light rain at the close, but no damage reported. Bean threshing is nearly ended; some Limas yet in the field; the crop is good. Walnut harvest is in progress. Oranges are reported in some sections fine, but a light crop.

HENS THAT LAY.

Mrs. D. F. Stoner, of Ontario, has her announcement in this week's paper in which she refers to thoroughbred Single Comb White Leghorns. Mrs. Stoner has several pens of very fine appearing birds, which she is already mating up for the season's business.

IT BRINGS THE CUSTOMERS.

Cultivator advertising pays. Why not try a small advertisement when you have anything to sell, or if you wish to buy. Here is the experience of one advertiser (and we have more letters of similar expression) whose advertisement paid:

Pasadena Cal., Oct. 21, 1905.

California Cultivator Company: Last week I sent in an advertisement for my son (F. S. Lee) for sale of strawberry plants and on Tuesday last it brought us a customer for 32,000 plants. We will have to change the ad as Brandywine plants are about all gone. I send another advertisement today for sale of a Compton ranch. Please insert in an inch space until ordered out. Respectfully, C. F. Lee.

LOTS OF IRRIGATING PIPE.

While at Dolgeville recently we called at the office of the Tallerday Manufacturing Co., and we were informed that the works are up to their limit in manufacturing of the surface irrigation pipe which while comparatively new in irrigation has become very popular as a water saver. While this is nearly the end of the season, the works were well up to their limit and were even behind with orders.

In addition to the surface irrigation pipe which is made of comparatively light galvanized iron, this company makes large quantities of heavier weight black or dipped pipe for water conducted underneath the ground.

DOKE'S FOODS.

Those who have used the Doke Stock Foods are very pronounced in their commendation of that article especially where it has been tried in dairies. It is not a stimulant, but contains elements which keep the cows in the best of condition so that all foods are more quickly and more properly digested.

Regarding its use in dairies, Mr. Doke tells us that within two or three weeks from its taking, most pronounced results are observable and that increased quantities of milk and butter are secured. For cows that have aborted, feed same dose scalded in the bran, if fed regular and stock is well cared for, they will become strong healthy animals, producing their regular amount of milk. It is also excellent for poultry, a tablespoonful of it being sufficient for a feed for a dozen laying hens.

AS BRIGHT AS THE STARS.

Everything that labor, thought and modern equipment can do has been done to bring the Star Oil Burner to a high standard of perfection. The Star Oil Burner stands upon its own merits. It has been thoroughly tested, and has no superior for safety and economy. It generates its own gas and gives a fire "as bright as the stars." By using this burner you save 25 to 40 per cent over wood or coal. Call and see this burner in operation at the Western Star Mfg. Co., 148 W. Fifth street, or write for circular.

The Toluca Nursery has a supply of grafted walnuts on both the native black walnuts and English walnut roots. We do not know that there is any choice. We have heard it expressed that the native black root will make the hardier tree and one less liable to disease. In any case, Mr. Tosetti says, he has not only the black, but the English root for those who wish it, and will also supply the Santa Barbara soft shell seedling.

Besides these, he has a supply of Crandall Blackberries, Brandywine Strawberries and Logans. For information on these lines, write G. Tosetti, Toluca, Cal.

ORPHANS RECEIVED.

The following named children have been admitted to the Boys' and Girls' Aid Society of South Pasadena, Cal., since the last report:

Jewel Sternberg, Ger., half orphan, light brown hair, light brown eyes, 8 years old; Marian Sternberg, Ger., half orphan, blonde, 2 years old; Albert Williams, Eng., half orphan, brown hair, blue eyes, 8 years old; Bruno Yimez, Mexican, orphan, black hair, black eyes, 9 years old; Louis Yimez, Mex., orphan; black hair, black eyes, 8 years old. Lucia Yimez, Mex., orphan; black hair, black eyes, 2 years old. Emil Stern, Ger., half orphan; brown hair, blue eyes, 11 years old. Laura Higuero, Mex., half orphan; black eyes, black hair, 12 years old. Nora Manes, Amer., half orphan; blonde, 12 years old. Georgia Manes, Amer., half orphan; blonde, 9 years old. Josie Manes, Amer., half orphan; blonde, 6 years old. Claud Manes, Amer., half orphan; blonde, 4 years old. Frank Alfrado, Mex., half orphan; brunette, 8 years old. Neva Jester, Amer., half orphan; brown hair, blue eyes, 8 years old. Edmond Kassold, Ger., half orphan; blonde, 12 years old. Oliver Morgan, Amer., half orphan; brown eyes, brown hair, 10 years old. Florence Mefford, Amer., half orphan; brown eyes, brown hair, 7 years old. Ella Kendall, Amer., half orphan; brown eyes, brown hair, 4 years old. Isidoro Ortiz, Mex., half orphan; brunette, 8 years old. George McAuley, Scotch, half orphan; brown hair, blue eyes, 6 years old. James McAuley, Scotch, half orphan; brown hair, blue eyes, 5 years old. Margaret McAuley, Scotch, half orphan; 4 years old. Frank Flores, Mex., half orphan; brunette, 8 years old. Grace Welty, Ger., half orphan; brown hair, brown eyes, 10 years old. May Welty, Ger., half orphan; brown hair, brown eyes, 12 years old. Grace Parry, Mex., half orphan; brunette, 11 years old. Beatrice Parry, Mex., half orphan; brunette, 6 years old. Emil Robinson, Amer., half orphan; blue eyes, light brown hair, 8 years old. Alfred Robinson, Amer., half orphan; brown eyes, light brown hair, 3 years old. Frank Digiovana, Italian, orphan; brunette, 12 years old.

MARGARET BOYNTON, Supt.

NO DUST
OR CINDERS

The California Limited Log-Book:

En route, April 12, 1905

Less dust on this road than any I was ever over.

JACK McCARTHY,
San Francisco, Cal.

SANTA FE IS THE WAY

YOUR EASTERN FRIENDS

Should know that the Low Colonist rates are now in effect from Eastern Points to Southern California via the

SALT LAKE ROUTE

From Chicago	$33 00
" St. Louis	30.00
" Kansas City	25.00
" Omaha	
" Council Bluffs and	
" Missouri River Points	

Fast Time — SALT LAKE ROUTE — Elegant Equipment

Through Tourist Sleepers Daily between Chicago, St. Louis, Omaha, Kansas City, Hannibal, St. Joseph and Los Angeles.

Information gladly furnished by any representative of the Salt Lake Route, or by addressing

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

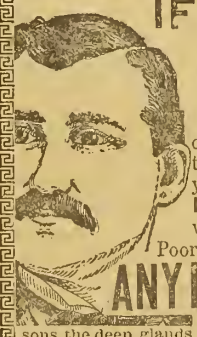
I WILL GIVE $1000

IF I FAIL TO CURE ANY CANCER OR TUMOR

I treat before it Poisons Deep Glands or Attaches to Bone.

NO KNIFE OR PAIN, NO PAY UNTIL CURED.

NO X-RAY OR OTHER SWINDLE.



A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. **3000 CANCERS** cured on people you can see and talk with. **ANY TUMOR, LUMP OR SORE** on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.

ANY LUMP IN WOMAN'S BREAST IS CANCER

It does not pain until almost past cure, and if neglected it **ALWAYS** poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. **INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK,** sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.

DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]

23 AND 25 THIRD ST., NEAR MARKET ST., SAN FRANCISCO.

PLEASE SEND THIS TO SOME ONE WITH CANCER.

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

IF I CAN LIVE.

If I can live
To make some pale face brighter, and to give
A second lustre to some tear-dimmed eye,
Or e'en impart
One throb of comfort to an aching heart,
Or cheer some wayworn soul in passing by;

If I can lend
A strong hand to the fallen, or defend
The right against a single envious strain
My life, though bare
Perhaps of much that seemeth dear and fair
To us of earth, will not have been in vain.

The purest joy,
Most near to heaven, far from earth's alloy.
Is bidding cloud give way to sun and shine;
And 'twill be well
If on that day of days the angels tell
Of me, "She did her best for one of Thine."

—Helen Hunt Jackson.

Father's Sweetheart

When Miss Morrell came to look at the house next to ours she seemed quite nice. She smiled very pleasantly when she asked for the key; and while she was down in the garden she picked some apples and threw them over to Bob and Tommy. They were not her apples, really, because she had not taken the house; but I thought it was kind of her. So I called when she moved in. Mother is dead, so I have to call. Father is Frank Marchant, the celebrated author, and I am Molly. I was fifteen in June, and Miss Morrell was thirty-one, she said. She must have meant forty-one, because she and father were boy and girl together, she told me; and he is forty-three.

"He was such a nice boy," she said. "He'd have done well if he hadn't been so clever, poor fellow!"

"If he wasn't clever, he couldn't write his stories," I pointed out.

"What's the good of writing stories if you can't sell them? Clever men have no sense."

I am afraid that is true, but of course I would not say so, and I got up to go.

"Father is more than clever," I told her. "He is the best man that ever was, and the kindest. I will not listen to anything against him; and I think perhaps it would be better if you did not call."

I know it was not polite to say that, but even mother was not polite if anyone spoke against father.

Miss Morrell only laughed and took hold of my arm.

"Tit—tut, child! I think well enough of your father. I fancy he has a very good little daughter, too. Now sit down and have another tea cake."

They were ver nice tea-cakes, and she made them herself. She gave me the recipe, but mine did not turn out the same.

She was watering her flowers when father walked down the garden after tea. He did not notice her because he was worried about a plot. He had found a way of getting the hero and heroine off a precipice, but he could not think how to get them on! She came and watched him over the wall. She had the water pot in one hand and some weeds in the other, and she wore an old hat like a black basin.

"Still up in the clouds, Frank?" she called at last. He started and turned around. Then he held out his hand and laughed.

"Mary! Well I never!—It's good to look at you again!"

I did not want to listen, of course; and Dick was whistling at the front gate, so I went out with him. (He is Dick Carson, and we are chums. He is not silly like other boys.)

"I don't care for that woman," I told him; but he only laughed and said I needn't be jealous. He is an impudent boy. We went round by the lane and came home across the brook. It was quite dark when we got in. Father was still talking to Miss Morrell over the wall, and hadn't made the boys do their home lessons; and they were watching out of the window.

"Father's got a sweetheart, Molly," Tommy said.

I do not often lose my temper with the boys, but I boxed his ears quite hard. I was sorry directly, but I could not say so for fear I should cry. So I went up stairs to take off my hat. When I came down, Dick had Tommy on his knee, doing his last sum. There were white smears on his face where he had cried, and I wiped him with my handkerchief.

"Dick's given me a penny, Molly," he said, and grinned at me. He is a kind little boy and never bears malice.

Dick didn't look at me, and I thought he was cross. I did not get up to go to the door with him, but he tilted me out of my chair, so I had to go.

"Oh, Dick!" I told him. "I wish I hadn't"

"Nonsense," he said. "It will do him good, the little wretch. You didn't hurt him."

"No—o; but he was mother's baby, and—and——"

I think I should have cried, but Dick was so nice to me, and said I was good to the boys. I gave them four chocolates each, and read a chapter out of Swiss Family Robinson to them, when they were in bed; and Tommy said he hardly felt it, and only cried to frighten me. I don't think I did it very hard.

When I came down stairs father was sitting at his desk, but he was not writing. He did not speak till he caught me looking at him. Then he sighed.

"It has brought back the old times," he said. "We were boy and girl together—some day you will look back to the times when you and Dick were boy and girl together."

I did not say anything, but went into the drawing-room. If it had not been father, I should have told him not to compare that woman with me.

At supper he talked about her again. She was always bright, he said, and very pretty when she was a girl.

"People alter a good deal as they grow older," I remarked. "I don't know if you noticed her hat?"

Father laughed.

"The hat is not fascinating, certainly," he agreed. I thought he laid too much emphasis on "hat."

The next evening they talked over the wall again. The evening after he went to see her. He took a bundle of Mss. He never shows his Mss. except to literary people or people he likes very much.

The next day she sent us a dozen tea-cakes. Father ate two and the boys the rest. I offered Jane some, but she would not touch them.

"Not if I was starvin' an' a bite would save me!" she said. "I've got eyes in my 'ead, Miss Molly—she'll never do by 'em as you've done."

Jane forgets and breaks things, but she is a good girl really.

The next afternoon Miss Morrell asked me to take the boys in to tea. I told her I was too busy; but the boys wanted to go, so I let them. They are not old enough to know better. She gave them three sorts of cake for tea, they said, and sixpence each. She helped them with their lessons, too; but I found a mistake in one of Bob's sums.

"Ah," father said, when I showed it to him. "She never was good at arithmetic; but she has a wonderful head for business."

"I'd rather be good than good at business," I told him.

Father smoked his pipe for two or three minutes. Then he laid it down.

"She is good, too, Molly," he said. "I could tell you something—I will tell you, because I want you to like her. She was in love with a man once—they were only boy and girl, really—and he was in love with her. There was a misunderstanding, and he went away, and got engaged to some one else. One day he came back—and found out what a foolish mistake he had made. He would have broken the engagement off, but she wouldn't let him. So he married—the other woman."

I could have screamed to hear him speak of mother like that; but I bit my lip instead.

"If I had been the—the other woman I wouldn't have wanted him, if he hadn't wanted me."

"She didn't know, dear. She never knew, right up to the time that she died."

"You—he pretended he liked her all the time?"

"He did like her. She was a nice woman—a very nice woman, only—you will understand, dear, when you are older."

"I understand now," I said. My—his wife is dead. So he will marry Miss Morrell."

"I don't know." Father filled his pipe slowly. "I hope so. If he does—"

"It will serve him right," I declared. Then I went down in the shrubbery and cried.

"If ever you like some one else better, Dick," I said, when I told him, "you're to tell me. I wouldn't marry you for anything, if you didn't want to. Promise me—No, no! It's no use saying you never will, because you can't be sure—promise me."

Dick looked very serious and whistled to himself for a long time. He does that when he is thinking.

"I believe you are right, kiddie," he said at last. "I promise."

"On your honor?"

He threw his head back a little.

"All my promises are on honor," he said. I do like to hear him speak like that.

I did not say anything more to father about Miss Morrell; but I made what we called "mother's cake" for tea, and put all her photos about the rooms to remind him of her. He took up the one where she is holding some music, and looked at it for a long time.

"She used to sing a great deal at the Morrell's," he said. "Mary used to accompany her. We must ask her in. She will like to hear you sing some of the old songs."

"I don't want to sing mother's old songs to anyone but you, daddy," I said. "Come and play for me, and I'll sing 'Afterwards.' You can put it down a note and think it is mother singing."

People say that my deep notes are like mother's, but of course I do not sing as well as she did.

"You can't sing that just like your mother, dear. Thank Heaven! You can't feel it quite like she did—Ah!"

"I'll try to feel it as much as I can. No, in E-flat, dear." He nodded and played the symphony softly. It is like a dream, and father plays so beautifully. I thought of mother, and took a deep breath, and began:

"Beyond the bound of land and sea,
Beyond the touch of hand;
Beyond the memory of me—!
I shall look down, dear love, and see
Your tears; and understand."

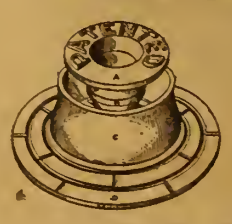
She is supposed to be dying. The first part is what he says to her, and the second part is what she says to him. Mother used to smile when she came to "understand;" and father used to look over his shoulder and smile at her.

"Light of my life, if I should miss
The path your faith has shown?
My heart was heartened by your kiss,
But now—Dear love, be sure of this
You will not walk alone."

He is in the minor, of course, and she answers in the major. It always sounded comforting, the way that mother sang it; and when I am worried about things, I try to fancy that I hear her. Then she used to

The Star Oil Burner

Its Own Gas Maker



Not an experiment, but a practically tested and successful invention. No superior for safety, simplicity, economy and durability. Without bolts, screws or rivets. Free from soot and smoke.

STATE AND COUNTY RIGHTS FOR SALE
For terms or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation

BURN AIR AND SAVE FUEL

You can do it with the
HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to
Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

draw herself up for the last verse.

"I shall look down, my dear—my dear!
Look down and smile on you.
Only be true and have no fear.
Only be true; and Heaven is near!
God judge me as I'm true."

I tried to steady myself and make my voice like mother's, and I seemed to see her standing there, with her hand on father's shoulder, and putting out her other hand to hold mine, when I was little and clung to her skirts. I took the low note in the last line quite full, and then something seemed to clutch my throat; and the big photo of mother that I had put on the piano slipped right down on father's hands; and I shrieked and shrieked and laughed and cried, and father couldn't stop me anyhow. I suppose you would call it hysterics.

I was better next morning, but Jane made me have breakfast in bed. Father was very worried because he was going away to Scotland to do some descriptive articles for the Daily Lyre. He began to write out a telegram to say that he couldn't go; but I told him that I was quite well, really, and Jane promised to look after me "like a mother." So he went.

When he said good-by, he gave me a note for Miss Morrell. "Ask her to wire 'yes' or 'no;' then I shall know what to do," he said. "Good-by, dear old girl. Be sure to telegraph if you want me back."

It is a dreadful thing to say, but I felt as if I never wanted father back again. If I hadn't loved him so, I believe I should have hated him. You would understand if you had no mother.

I told Jane about the letter, and she said anyone could tell it was a proposal; and if she was I, she would burn it. I was a good mind to, but when I asked Dick, he said, "it wouldn't be straight." So I gave it to him to do what he liked with it, and he took it in to Miss Morrell. She asked him to take a telegram to send off to father, but he told her he would rather not have anything to do with it. He saw her write it, and it was "yes!" He wouldn't look at me when he told me, but he said a lot of nice things about me and how good I was to father and the boys, and I shouldn't have to live with her very long, because he was growing up. I think anybody would like Dick. He is so kind. Jane was very kind, too, and didn't even grumble at Bob when he knocked over a pail of water.

"I'd have liked to box 'is ears!" she said, "but but I thought of you, you poor dear—more'n a mother you've been to them; and 'e ought to be ashamed of 'isself, the master ought."

In the afternoon I sat down in the garden darning the boys' socks, and Miss Morrell came and stared at me over the wall. "You don't look well, child," she said. "I am quite well, thank you," I told her. She put up her eye-glasses and looked at me. "You're too young to look after a house," she said abruptly. "Anyhow," I said, "I have looked after it. I don't suppose I have done very well, but I have done my best. No doubt you could do better; but you'd find it very different from having only yourself.' I thought that I would let her see that I understood.

"I daresay I should." She sighed; but she did not seem cross. "Do you know, Molly, sometimes I wish I had others to work for. Don't you think I could help you?"

"I don't want any help," I said; "and if I did, I'd rather not have it. You see I promised mother. She wouldn't want anybody else to do things for father and the boys—only me." I looked straight at her, and she shook her head.

"We were children together," she said, "she and your father and I. I don't think she would mind me."

I gathered up the socks and angola together and got up.

"I think," I said, "she would mind you very much."

Miss Morrell looked surprised and hurt.

"You don't like me, Molly," she asked.

"No," I told her, "I don't. You have sent the telegram to father, I suppose?"

"Yes—your father has told you?"

"He has told me." It was not true; but I could not let her think that father did not trust me. "Good-afternoon."

I went indoors and gave the boys their tea. After tea I gave them two pennies each to spend. I thought I should not have the housekeeping money for long; and she would not do things for them like mother used to, and like I tried to do.

Father came home on Sunday night. He had only just taken his hat off and sat down in the arm chair when she came in. He jumped up and held out both hands; and she trembled and half laughed and half cried. She looked quite young and almost pretty; and I hated her.

"I am so glad, Mary," father said. "So glad, dear old Mary. God bless you!"

"God bless you, Frank—kind old Frank!" she said. Then she began crying softly; and he bent down and kissed her. I was in the dark corner by the screen and they did not seem to notice me. I felt my heart thump and my breath come and go; and I looked at them, and looked at the big photo of mother on the mantelpiece. It was just beside them, as if she was watching them; and I rushed between them and snatched it away.

"Mother!" I cried. "Oh, mother!" Then I seemed dizzy and tripped over something; and Miss Morrell caught me, and I didn't remember anything more till I found her bathing my forehead with eau de cologne, and I was too weak to push her away.

"My poor child," she sobbed. "My poor child!" Her tears fell all over me, she was crying so. "We ought to have understood. It isn't your father, darling. It's my old lover that he has found for me in Scotland. That was what I telegraphed about. Now, we'll see if you can't like me a little—No, no! You musn't move yet." But I sat up somehow and held out my arms to father; and he picked me up and nursed me like a baby.

"I've only two sweethearts, darling," he said, and he wiped his hand across his eyes; "your mother—and you."

I shall never quite forgive myself for thinking of him as I did, but it was only because I was so fond of mother.—Owen Oliver in Delineator.

DO YOU KNOW

That if you rub grass stains with molasses they will come out without difficulty in the ordinary wash?

That spots may be removed from gingham by being wet with milk and covered with common salt? Leave for an hour or so and rinse out in several waters.

That sheep sorrel will take out rust stains from cloth? Rub thoroughly on the stains, and then take out the resulting grass stains with either molasses or alcohol.

That you can make a faded dress perfectly white by washing it in boiling cream of tartar water?

That salt dissolved in alcohol will often remove grease spots from clothing?

That mud stains can be removed from silk if the spots are rubbed with a bit of flannel, or, if stubborn, with a piece of linen wet with alcohol?

That two potatoes granted in a basin of warm water give better results than soap in washing delicate flannels or woolen goods, ribbons, etc.?

That linen blinds can be cleaned by laying flat and rubbed with powdered bath brick?

That carpets and rugs can be thoroughly cleaned by being hung over a clothes line and having the garden hose turned upon them? This will do no harm to any carpet. Dry in a shady place.

SLEEPING CHILDREN.

Editor Cultivator:—Should children sleep in separate beds?—H. I. N., Ventura.

As far as practicable each child should have its own bed, during warm weather, especially. No two children are constituted alike and each requires a different weight of clothing. The child of nervous temperament rests best alone. Care must be taken to have the covering light and warm. The sleeping room should always be properly ventilated. By this we mean plenty of fresh air, without draught over the bed.

STUDY HIS MIND.

Editor Cultivator:—I have a boy who will not go to school without forcing him to do so. He prefers to spend his time reading novels. What shall I do to awaken his interest in his school?—Mother, M. C. H., Oakland.

If you will try and learn what class of novels your boy reads, you may get the bent of his mind. If they are historical in character or along the line of ornithology or any of the animal studies, cultivate his taste. If he is reading trash, you will have to interest him in books of animals, birds or travels. His teacher ought to be able to assist you in directing the trend of his mind. Perhaps the trouble is in his teacher? Maybe in yourself. Try and find where the fault is and you can the better apply the remedy.

Cookery Recipes

A FAMOUS RECIPE FOR CHILE SAUCE.

Fifty good-sized ripe tomatoes, scalded and skinned; twenty-five onions of medium size; eighteen green peppers, seeds removed; two bunches celery. Chop them all up quite fine, add three cups granulated sugar, four tablespoonfuls salt and one tablespoonful each of ground mace, allspice, cloves and cinnamon, with two quarts of cider vinegar; put them all in a granite kettle, cook slowly for three hours and stir often to prevent the mixture from sticking to the bottom of the kettle. When cool put up in bottle, sealing well until needed.

* * *

ICED COFFEE.

Prepare your coffee as for the regular meal, with or without milk. Pour in glasses half filled with ice, with sugar to taste.

* * *

WINE WHEY.

Sweeten one pint of milk, or more if you desire, and boil it. While boiling add two or three wine glasses of sherry. When the curd forms strain the whey through a strainer into the glasses.

* * *

PINEAPPLEADE.

Pare and slice some ripe pineapples; then cut into small pieces and put them with all their juice into a large pitcher. Sprinkle them with plenty of powdered sugar. Pour on boiling water, allowing a small half pint to each pineapple. Cover the pitcher and let it stand until cool, occasionally pressing down the pineapple, to get the strength of it. Set the pitcher for a short time on ice.

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trademarks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phones 347

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

The Green-Marshall Co.
Manufacturers and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

Oh! What A Difference
IN THE MORNING
Especially wash day morning when you use a
WHITE LILY WASHER
JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY
WHITE LILY WASHER CO.
1539 Rockingham Rd, Davenport, Iowa

The Los Angeles National Bank
OF LOS ANGELES, CALIFORNIA
DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000
DIRECTORS
W. C. Patterson, President; Frank P. Flint, Vice President; G. E. Bittinger, Cashier; L. C. McKeeby, Dan Murphy, W. M. VanDyke, W. T. McFie, L. A. Grant, H. F. Vollmer, A. H. Naftzger, W. E. Hampton.

The Rhode Island Station conducted an interesting experiment with an incubator hatch of 219 chicks. They were put into lots of about 50 each, and placed in similar brooders. For thirty days all conditions were kept alike except rations. Pen A was fed a balanced ration of grains, meat and green food. Pen B had grains and green food, Pen C had grain alone and Pen D received only meat and green food. The percent of deaths in order of pens was 4, 9½, 33 and 76½. Those in last three pens died almost entirely from bowel troubles. Pen A had no bowel troubles and the survivors showed the best average weight. This shows that outside of brooding and incubation chicks may be killed by improper feeding. The animal meals of commerce are handy, but a cow's liver cooked slowly, till crumbly, and shopped fine, has gone a long way with my flocks.

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition. Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

FOR SALE

One Four-Horse Killefer Griffith Orchard Cultivator.
One Two-Horse Cultivator.
One 10-H. P. Steam Boiler.
One 40 H. P. Steam Boiler.
One 20-H. P. Steam Engine.
Barley Roll and Corn Mill.
600 lbs. Wire for Training Berries.

These articles have been in use at the Densmore Ranch at Burnett, on Huntington Beach line of P. E. R. R. and are in first-class condition. Low prices will be made to close estate.

Chas. C. Adams, Burnett, Cal.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES	2½	Horse Power,	$125.00
	4	" "	185.00
	10	" "	368.00
	15	" "	556.00
	20	" "	731.00
	30	" "	1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS
411 Market St. San Francisco, Cal.

Los Angeles Markets.

Los Angeles, October 26, 1905.

Butter.

Cooking butter is lower, but other grades remain unchanged.

B. of T. Creamery, per roll	67½
Valley Creamery, fancy	65@67½
Coast Creamery	55@57½
Fancy Dairy	50@52½
Cooking	22

Cheese.

Cal. 3-lb hand	18
Cal. Young America	17
California Anchor	16
Northern	13@13½
Eastern	15@16
Domestic Swiss	18
Imported do	28

Eggs.

Eggs remain steady at last week's quotations.

Eggs, fresh ranch	35
Eastern and Storage	28@31
Seconds	24

Poultry.

Fryers, 2½ lbs	14
Broilers, under 2 lbs, per lb	16
Young Roosters, per lb	14
Hens, per lb	14
Ducks, per lb	11
Turkeys, per lb	17@20
Geese	11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt	$5.50
Prime Steers, cwt	3.50
Cows, cwt	2.85
Calves, cwt	4.50
Sheep, ewes, per head	3.25
Lambs, do	3.25
Wethers, per head	4.00

Potatoes.

Northern, per cwt	90@$1.00
Locals, per cwt	75@1.00
Sweets, white, per cwt	90@1.00
Sweets, yellow	1.00@1.25

Vegetables.

Onions, Silver Skins, sks	50@75
Onions, yellow, per cental	75@85
Beets, per 100 lbs	75
Cabbage, per sack	40@50
Cauliflower, per doz.	30
Parsnips, per sack	60@65
Bell Peppers	3@4
Cucumbers, per box	45@60
String Beans	3½@4½
Wax Beans	5
Green Onions, doz bunches	20@25
Carrots, doz. bunches	30
Turnips, doz. bunches	25@35
Garlic	6@8
Celery, dozen	25@35
Peas, per lb	3@3½
Egg Plant	3
Chili Peppers, green	2@2½
Chili Peppers, dry	15@20
Tomatoes, local	35@50
Asparagus	8½@10
Parsley, per doz bunches	30@40
Summer Squash, bx 20 lbs	25@35
Green Corn, per sack	75@1.25
Lima Beans	3½
Rhubarb	2½

Citrus Fruits.

Valencias	$3.50@4.50
Lemons, standard	1.50@2.00
Lemons, fancy	3.50
Grapefruit	2.00@3.00

Fresh Fruits.

Apples, 4-tier Bellefleur	75@1.10
Apples, 4½-tier Bellefleur	75@85
Apples, 4½-tier Rhode Is. Grn	90@1.10
Apples, Red Pearmain	1.15
Apples, Gravensteins	90@1.10
Strawberries	8@12
Logan Berries	7@8
Pomegranates, per crate	50@65
Peaches, per box	75@1.25
Plums	90@1.25
Figs, per box	50@75
Black Figs	50@75
Muscats	85@1.00
Tokays	1.25@1.35
Cornichons, lb	5@6
Quinces, per box	1.00
Pears, Winter Nellis, per lb	3
Muskmelons, large crates	2.00@2.50
Desert Cantaloupes	1.00@1.50
Watermelons, doz	35@1.75
Guavas, per lb	5

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11c; fy, 8½; ch, 7½.

Peaches, fy, 9@10½c; ch, 7½@8c.

Prunes, Santa Clara, 30-40, 8½c, 40-50, 7½c; 50-60, 7c; 60-70, 6½c.

Loose Muscatel Raisins, 2-crown, 4½c; 3-crown, 5c; 4-crown, 6c.

Beans, Dried.

Limas	5.50
Pinks, fancy	2.90@3.00
Lady Washington	3.00
Large Whites	3.00@3.25
Black Eyes	2.50@2.75

Nuts.

Walnuts, No. 1 soft shells	14½
Do, No. 2	9
Do, No. 1 hard shells	12
Do, No. 2 hard shells	10
Almonds, paper shell	16@17
Almonds, soft shell	18@20
Peanuts, California,	6@7½
Peanuts, Eastern	7½@8

Honey

Honey, comb, frames	12½@13
White strained, per lb	5@5½
Amber	4½
Beeswax	23@25

Hay.

Barley, new	12@14.50
Alfalfa, local, new	14
Alfalfa, Northern	11@12
Wheat, new	13@14
Tame Oat, new	11@14.50

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	$1.40@1.45
Barley	1.10@1.13½
Corn	1.25@1.30

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.25
Bran	$1.30
Feed Corn Meal	1.55
Middlings	1.40
Wheat	$1.65@1.70
Cracked Corn	$1.50
Corn	$1.45
Oil Cake Meal	**$2.10**
Cocoanut Meal	**1.55**

San Francisco Markets.

Dairy.

San Francisco, October 25, 1905.

Butter has remained practically unchanged during the past week, buyers being slightly less eager for supplies, thereby causing a very slight decline in some few cases.

BUTTER—Per lb:

Creamery, fancy	31
Creamery, good to choice	28@30
California storage	24@26
Eastern Creamery	23@26
Eastern, ladle	20@21

CHEESE—New California, fancy, 13½c, firm; firsts, 12½c, firm; seconds, 11½@12½c, firm.

Eastern—Cheddars, 15½c, firm; Flats, 16c, firm.

Western — Cheddars, 14c, firm, Twins, 14½c, firm.

Storage—California fancy, 12½c.

Eggs.

Ranch eggs continued scarce and bids of 49c brought out few offerings. Storage eggs sold well, and several good sized transactions were closed within the quoted range of values.

EGGS—Fresh California Ranch, selected, 49c, firm; firsts, 45@46c, firm; second, 42½@44c, steady; thirds, 25@27c, weak; California Store, nominal.

Eastern—Selected, 27½c, firm; firsts, 24@25c, firm; seconds, 20c firm.

Storage—California selected, 27c, steady; firsts, 25c, steady; seconds, 24c, steady; California Store, selected, 25c; firsts, 24c. Eastern, selected, 25c, firsts 23@24c.

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $5@6; Hens, Fryers, $4@4.50; Broilers, $3.50@4; Hens, small, $4@5; large, $6@7; Live Turkeys, per lb, 18@22c; dressed Turkeys, 24@26c; Ducks, old, $3.50@4; young, $4.50@5.50; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1.25@1.50 young Pigeons $1.75@2.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, fancy, 85c@$1.00; common to choice, 40@75c.

Pears—Per box, Bartlett, $2@2.50; Winter Nellis, $1@1.50; other varieties, per box, 40c@$1.

Table Grapes—Per box or crate: Seedless, $1@1.25; Muscats, 50@75c, Cornichon, 75@90c; Blacks, 40@65c; Tokays, 50@85c; Isabellas, $1@1.25 open boxes, 65c@1.25, as to variety.

Wine Grapes—Per ton, Zinfandel, $20@25; other varieties, $18@22.

Persimmons—Per box, $1.

Quinces—Per box, 60@75c.

BERRIES—Blackberries, per chest, $5@6.

Raspberries—Per chest, $7@10.

Strawberries—Per chest, Longworth, $7@8; large varieties, $4@5.50; Santa Clara, $6@8.

MELONS—Cantaloupes—Per crate, $1@1.50; Watermelons, per doz, $1.50@3; Nutmeg Melons, per box, 50c @$1.

Citrus Fruits.

CITRUS FRUITS—Per box: Oranges, Navels, $3.50@4.50; Valencias, $3.50@5; Lemons, $2@4; Limes, $4@4.50; Grape Fruit, per box, $3@4.50.

Vegetables.

VEGETABLES—Tomatoes, per box, 50c@$1; Green Peppers per box, Caile, 40@65c; do, Bell, 40@65c; Okra, per box, 65@75c; Beans, per lb, Green, 3@4c; do, Wax, 3@4c; Lima, 3@4c; Garden Peas, per lb, 4@5c; Cucumbers,

per box, 65c@$1; Summer Squash, per box, $1@1.35; Egg Plant, per box, 40@60c; Garlic, per lb, 5½@6c; Marrowfat and Hubbard Squash, per ton, $10@12.50.

ONIONS—Per sk, Yellow, 85c@$1.

POTATOES—Per ctl: River Burbanks, 50@65c; Salinas Burbanks, 90@$1.20; Sweet Potatoes, Merced, $1.50.

Dried Fruits.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Prices per lb, f o b Fresno, are as follows: Bleached Thompsons, Seedless, extra fancy, 10½c; fancy, 9c; choice, 8c; standard, 7c; Bleached Sultanas, fancy, 7c; choice, 6c; standard, 5½c. Prices are for 50-lb cases, f. o. b. discount of 1½ per cent for cash.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Beans and Peas.

BEANS—Prices per ctl: Large White, $2@2.40; small do, $3@3.25; Pea, $3.25@3.75; Lima, $3.40@3.50; common shipping points, $3.20; Red, $3@3.50; Pink, $1.75@2.15; Bayos, $3.50@3.75; Blackeyes, $4.40@4.60; Red Kidney, $3.50@4; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $1.75@2; Green, $1.75@2.25; Field, $1.50@2.

Live Stock.

Conditions throughout all departments of the Live Stock market are purely a reflection of the features thoroughly reviewed for some time past. Sheep continue in scant supply and rule strong at full quotations and A1 Steers and Lambs share second place interest at firmly held rates. Calves and Hogs are plentiful at the familiar prices.

CATTLE—No. 1 Steers, 6½@7; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers 5@5¼c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c; Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3¾@4¼c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hay and Cereals.

HAY—Per ton: Wheat, $11.50@16.50; Wheat and Oat, $11@15; Oat, $8@12; Barley, $8@11; Clover, $7@10, Alfalfa, $6.50@9.50; Stock, $5@7.

WHEAT—No. 1 Shipping, per ctl., $1.30@1.35; inferior grades, $1.15@1.30; White Milling, good to choice, $1.35@1.45 for new and higher for old.

BARLEY—Choice No. 1 Feed, $1.13¾@1.16¼; some fancy grades up to $1.17½; common to fair, $1.10@1.12½; inferior grades, $1.05@1.07½; Shipping and Brewing, $1.17½@1.20; Chevalier, $1.20@1.30.

OATS—Good to choice White $1.37½@1.45; Red, $1.35@1.50 for choice to fancy; $1.15@1.32½ for common to fair; Black for seed, $1.60@1.75; lower grades, $1.25@1.55.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large, Yellow, $1.45@1.50; small do, $1.60@1.65; White, $1.40@1.45; Eastern Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.35@1.40.

CITRUS MARKETS

High prices have been received in all Eastern markets this week, with supply light and buyers eager. Floridas are coming in better condition and commanding higher prices.

New York.

Two carloads of Valencias were offered Friday in a driving rain, but the demand was keen and prices firm. Old Mission brand averaged $8.72 for fancy, while Colton Terrace ex fy, averaged $5.38.

Three cars of oranges and three of lemons were offered Monday and all went at good figures, quality considered. Oranges ran from $1.35 to $6.17 per box, while lemons averaged $7.00 for ex ch.

Two cars of Valencias were offered Tuesday, ex fy averaging $8.75. ch $5.15 to $7.40 and standards $6.30 per box.

Four cars of Valencias and one of lemons offered Wednesday. Fancy oranges brought $8.37 on an average, while lower grades ranged from $6.45 to $4.91. Lemons were steady around the $5.00 mark.

Chicago.

Lemons were in fair demand Friday, with shipments on the way. Sound stock sold as follows: 360, $5.25@$5.60; 300s, $5.60@5.85; 240s, $5.25 up; 420s, $5.50 up. Oranges in light supply and bringing $5 to $6.50.

No change in lemons Monday and California oranges are also scarce, bringing $5 to $6.50 per box.

Wednesday brought few oranges, and they were firm at $5.00 to $6.50 per box.

Boston.

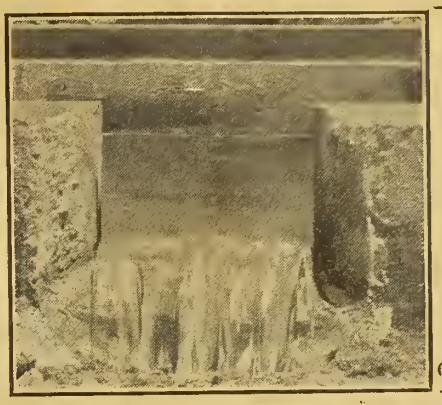
One car of late Valencias at Friday's auction brought from $2.75 to $5.75 per box under a keen demand.

No citrus fruit offered here the early part of the week.

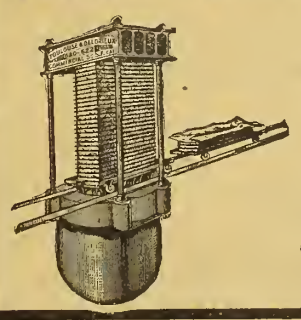
Total Shipments.

The total shipments of citrus fruit this season are 29,556 cars, of which 4373 were lemons.

GASOLINE ENGINES, WINDMILLS,
IRRIGATION MACHINERY,
FAIRBANKS' STANDARD SCALES,
STEAM PUMPS, DYNAMOS,
MOTORS, PIPE, CASINGS,
FITTINGS, BELTING, Etc.
MANUFACTURED AND FOR SALE BY
Fairbanks, Morse & Co., 136 and 138 So. Los Angeles St. LOS ANGELES, CALIFORNIA



Does This Look Good to You?
It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.
Write for catalogue.
Pomona Mfg. Co. - Pomona, Cal.

WINE AND OIL MACHINERY

A SPECIALTY
Presses for All Purposes.
Complete Plants Fitted Out.
TOULOUSE & DELORIEUX
618 Commercial St. San Francisco
Catalogue Upon Application

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING
PAPER
MANUFACTURED BY
PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

MALTHOID ROOFING
PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B Ready Roofing, P. & B. Building Papers and P. & B. Paints.
THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

RUBEROID ROOFING
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

Cylinders
In Fifty sizes and lengths
For Every service
A. T. AMES
Galt, Cal.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS

THE WESTERN

BEST STRONGEST SIMPLEST
MOST SUCCESSFUL
ANY SIZE PLANT FROM 5 TO 500 H. P.
CALL AT FACTORY
AND SELECT YOUR ENGINE AFTER
YOU SEE IT RUN AND TESTED
BURNS CHEAPEST FUEL
BUY NOW AND GET
SUMMER PRICES

Western Gas Engine Co.

908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

For Anything in the Plow Line ask us about the

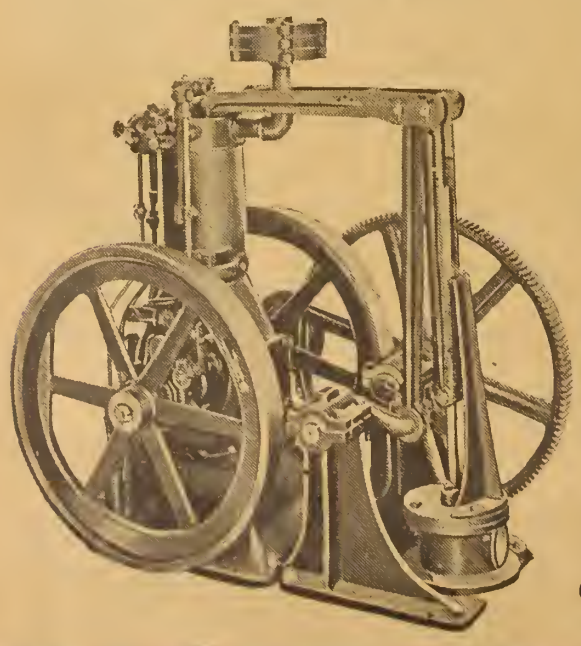
SYRACUSE CHILLED PLOW CO.'S GOODS

Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the
FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.

Have you seen the "New Harrison Wagon?"

L. A. MARTIN & SON

129 Wilmington St. **Los Angeles, Cal.**



Little Wonder

That's its name. Little wonder it is that that is its name and that it is so exceedingly popular. It's cheap. It's effective. And it's so handy and always ready. Runs the pump, the cutter, the grinder, the churn — any old thing on the ranch. Look it up right away, because you will be interested.

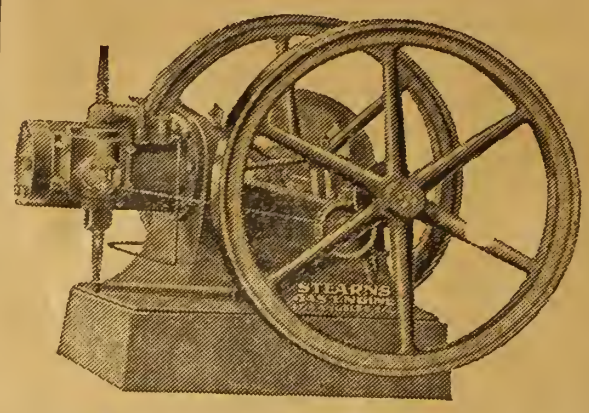
Wm. Gregory

602 No. Main St
Los Angeles

HAY PRESSES LEAD

IN DURABILITY AND CAPACITY
OLDEST AND BEST KNOWN. MANY STYLES.
HORSE OR BELT POWER. GET PRICES AND TERMS.
KANSAS CITY HAY PRESS CO.,
No. 451 Hill St., Kansas City, Mo.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

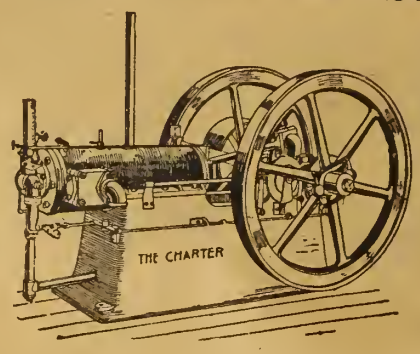
Hundreds in Use
Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

ECONOMY IN RAISING WATER

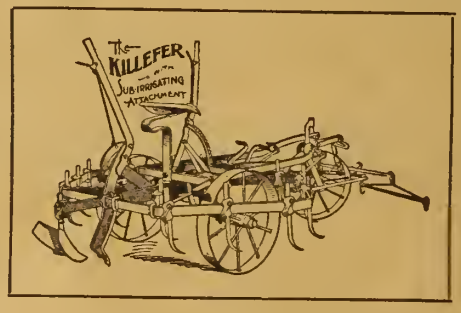


Is possible with a reliable engine. We have a good gasoline engine for little money. Competent engineers at hand to give advice on installation. Write us for information on Gas, Gasoline and Steam Plants.

Pacific Coast Mfg. Co.

126-128 So. Los Angeles St, Los Angeles, Cal.

Deep Cultivation Creates Wealth



To cultivate deeply, solid, well built tools which will do the work with the least draft are necessary.

Our Subsoiler does the work effectively. It is strongly built and requires least possible repairs, and lets water and air into the subsoil.

All our tools built in California for California service.

KILLEFER-GRIFFITH MFG. CO.

2036 Palmetto St. ***Los Angeles, Cal.***

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

California Cultivator

LOS ANGELES SAN FRANCISCO

NOVEMBER 3, 1905

THE REDDEST ROSE.

Among all the flowering shrubs that grace the garden or add to the beauty of hall or conservatory, none can compare to the rose. Of diverse color and character of foliage, of endless design and color of blooms, it lends itself to a wider range of decoration than any other single group of plants, being equally desirable as pot plants, garden culture, and for cut flowers. When to these qualifications are added ease of culture and quick and ample responses in flowers, it is explained why the rose has been aptly termed "The Queen of Flowers."

In our illustration is shown Grus an Teplitz, one of the most popular of the newer roses, being of the deepest possible red when in the bud, when opening becoming more brilliant and fiery. Easy to propagate, easy to grow, it will always be a strong garden favorite.

GRUS AN TEPLITZ Courtesy Armstrong Nurseries

CIRCULATION EXCEEDING 11,600

You You Yours

Your Business to Consider

A ton of Shorts or Bran or Chop Feed contains not much more than 180 pounds of digestible protein; while a ton of COULSON'S EGG FOOD contains over 300 pounds of digestible protein.

Now as "protein" is one of the most valuable parts of the feed for making eggs, you can readily understand that you will get more results from one ton of COULSON'S EGG FOOD than you would from a ton and a half of either shorts, Bran or Chop Feed.

Therefore, it would actually be cheaper for you and prove more profitable for you if you should feed your pullets and laying hens COULSON'S EGG FOOD every day.

Unless a food, however rich in protein, is relished, it loses much of its value.

Therefore, we make COULSON'S EGG FOOD in a condition that fowls will relish it.

They eat it greedily—THEY JUST GO FOR IT—because it tastes good to them and they like it so.

If you should feed only grain and a mash composed only of Shorts, Middlings and Chop Feed, etc., without any extras, in the way of animal foods, your average profit on your entire flock would probably not average over 75c per hen, per year.

If you should mix Beef Scraps, Meat Meal or Meat, etc., with the other feed, the profit might be increased to $1.00 per hen per year. If you should feed the hens COULSON'S EGG FOOD every day, a food that is just right, the hens will earn you a profit averaging from $1.25 to $1.50 per hen, and sometimes more, per year.

Now, if the above is true, and it undoubtedly is, one would do BETTER BY USING COULSON'S EGG FOOD, and save a lot of worry and both of mixing feed, etc.

(1¾) Tons of Shorts at $25.00 per ton would cost $44.00.
(1¾) Tons of Bran at $24.00 per ton would cost $42.00.

Therefore one ton of EGG FOOD is equal to $44.00 worth of shorts; it is equal to $42.00 worth of Bran, or $45.00 worth of Chop Feed or $50.00 worth of Corn; and it is better because it also keeps the fowls in more active and healthy condition.

COMMENTS:

184 EGGS PER HEN

Henry Graff, a prominent poultryman near Petaluma made a flock of 1400 hens average 184 eggs apiece during the past year.

THAT'S GOING SOME

Considering the large number of hens,—as there are always some hens that are not layers.

They were fed once every day on COULSON'S EGG FOOD.

I have fed your Egg Food for the past three months to my flock of 200 pure-bred Brown Leghorns with the best results. I believe it HELPS THE FERTILITY OF THE EGGS, as I have had a higher percentage of hatches than heretofore, and can cheerfully recommend to all poultrymen.
W. E. MERCER, Ventura, Cal.

This is the first season I have used COULSON'S EGG FOOD and I consider it excellent for the purpose. Since August last I have had MORE THAN DOUBLE THE NUMBER OF EGGS I ever had before from the same number of hens. A. A. HENRY, Rumsey.

I have fed your Egg Food and had good results.
S. M. BUTLER, (Arrowhead Strain B. P. Rocks.)

I find your Egg Food proves to be just what you recommend it to be.
E. M. SHELFORD, Cloverdale, California.

Have been using your feed since last August, 1904, and have never had such a healthy, happy lot of hens before. It carried them safely through the molt without any sickness and they are laying well at present with eggs at 35 cents a dozen.
MRS. E. M. HICKS.

Full particulars of your dealer. If he does not keep COULSON'S FOODS, etc., give us his name and we will tell you where and how to get them, and save you money.

A Sack of Coulson's Egg Food

The World Renowned
COULSON'S EGG FOOD

A Balanced Ration or Mixed Feed for Pullets and Laying Hens

Intelligent Feeding.

Feed the hens Coulson's Balanced Ration Egg Food. You can buy it nearly as cheap as wheat, and it will make the hens lay better than any other food.

A hen is simply an egg-making machine. Feed her properly and she is bound to lay eggs regularly. Feed as a mash one meal a day. Simply wet it up with a little water or skim milk, and it's ready to feed: it saves you time; it's the busy man's friend. Feeding a properly balanced ration the year round will yield double the profits if you feed COULSON'S.

Take the sack of Coulson's Egg Food, dump some of it out in a box—pour some water or skim milk on it. Stir it up so as to make a dry mash, (meaning not too wet), then pour it into the feed troughs for the growing pullets and laying hens. They should be fed COULSON'S one meal every day.

The supreme test of a hen is her Egg-Making Capacity. A good hen should lay about 200 eggs per year, which she will do if fed regularly on COULSON'S EGG FOOD.

Cut out this slip. A handsome needle case free.

What poultry have you? .....

Do you use Coulson's Foods? ..... If so, what kinds and how long? .....

What results have you had? .....

When will you need a new incubator? .....

Have you had samples of Coulson's Foods? .....

Does your dealer keep them? .....

Your dealer's name? .....

And address .....

Your name .....

Address .....

(On return of this properly filled out we will mail you a valuable and handsome needle-Book. If a copy of our new 80-page Catalogue and Egg Record is desired, send us 5c postage.)

$500.00 to be given away. Look for particulars in every 100-lb. sack Coulson's Special Chick Feed.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 18 LOS ANGELES, CAL., FRIDAY, NOVEMBER 3, 1905 Subscription $1 a Year

Growing the Raisin Crape Commercially

By Robert Boot

The raisin grape, although introduced into this State more than fifty years ago, has not been of commercial importance more than half that length of time; the total production for the State in 1876 being in the neighborhood of 600,000 pounds weight of raisins, which increased by leaps and bounds up to 1894, when the production reached 103,000,000 pounds, at which time the industry was suffering great depression in consequence of unorganized producers' eagerness to force a twelve months' supply of raisins on the market in 90 days. The business of the vineyardist became unprofitable, raisins were sold for less than the cost of production, and many thousands of acres of vineyards were destroyed. This depression existed more or less acutely up to 1898, when the vineyard men organied under the name of the California Raisin Growers' Association, since which time the business has been carried on generally on a profitable basis.

The vines from which this large amount of product is derived are among the choicer varieties of Vinifera, imported from Spain, and are known as the "Muscat of Alexandria' and the "Gordo Blanco Muscatel," which is distinguished from the Muscat by its lower horizontal growth and its round berries, in contrast with the upright growth and oblong berries of the Muscat of Alexandria. The Malaga grape is also largely cured for raisins but it is destitute of the Muscat flavor and, being a thicker skinned, coarser grape, is not so highly prized for this purpose as the Muscat. This reason, and also the difficulty of removing the cap stem, make it objectionable as a seeding raisin, but, on the other hand, make it more valuable as a shipping grape for table purposes, and large quantities are annually shipped for this demand. It is said also to make an excellent quality of Valencia raisins for cooking purposes.

* * *

Our raisin production also includes the cured product of the Seedless Sultana and the Thompson Seedless, which amounts to to several thousands of tons annually.

The acreage devoted to these varieties of grapes in the State is estimated to be 64,000 acres, but this is probably an under estimate today, in consideration of the many vineyards planted in the last few years, which more than counteracts the loss by old vineyards being put out of commission and other causes. The average yield, per acre, covering a series of years, does not exceed 3-4 of a ton per acre for the State, proving that a considerable area is devoted to raisin grape growing that is unsuitable for its cultivation and unprofitable for the owner, as in most raisin districts there are raisin vineyards which are known to produce double, or more than double, that amount.

The counties of Yolo and Solano have the credit of producing and shipping the first consignment of raisins in merchantable quantities, closely followed by Riverside, San Bernardino, Orange and San Diego counties and lastly by the San Joaquin valley, which, from its favorable climatic conditions as to dryness of atmosphere and high temperature combined with abundance of water and suitable soil, has brought it to the front as the banner raisin district of the State, and in which raisins of the best quality, and largest yield, at the minimum cost of production, can be obtained by the vineyardist, with probably one exception in favor of Yolo county, where they turn out an excellent quality of Seedless Sultanas.

The future of the raisin grape and the raisin industry, as in all others, will come only as a reward for eternal vigilance. The Muscat vine, being one of the choicest and most delicate of the Vinifera family, is liable to suffer first, from any adverse influence, and there are many adverse influences waiting to prey upon it. The deadly, mysterious disease that swept the vines from the rich district of Anaheim and other southern districts and is now preying upon the vineyards of the Sacramento valley, is probably most to be dreaded, and no known specific has yet been discovered for prevention or cure. The minor evils of mildew oidium, and kindred fungus growths, are apt to attack the Muscat in preference to other and hardier varieties.

Then, in the insect world we have, first, the phylloxera which is already with us, but conditions do not seem favorable for its propagation at a very rapid rate, and it is principally confined to the heavy red loams; it is probable that this evil can be taken care of by being prepared with resistant stocks to replace its ravages, without diminution of our annual crop of raisins; then, the lesser pests of cut worms, sphinx worms, grasshoppers and the thrip, which is always more or less with us and can be easily controlled by early cultivation. I have never known injury from this cause where the cultivation destroyed all weed growth in a vineyard one week before the vines came out in leaf. Prevention is better than cure, and on general principles, a vineyard that is kept in high condition by careful and thorough cultivation and judicious fertilizing will resist many evils from which a neglected vineyard will suffer. The use of sulphur should not be forgotten; two or three dressings in the spring act as a stimulant to the vine, prevent oidium, and, I believe assists the early ripening of the crop.

At Work in a Vineyard.

Before leaving the subject of the welfare of the vine, a few words on the subject of pruning, which is a very necessary part of the important work of a vineyardist: Some vineyards boast of the fact that they have let their pruning by contract at so much per acre—say, one and a half dollars, including burning the brush, and then turn the contractor and his men loose in the vineyard with little, if any, supervision, with the result that when they get through, a first-class butchery has been accomplished. In some vineyards the brush is chopped off at equal length from the stump without regard as to the number of eyes left, no discrimination as to thinning, suckers even are pruned and left as desirable bearing spurs. Then again, others prune the stump bare as though the object was to grow suckers entirely, and after a few years of this treatment they have nothing but suckers, with the crown of the vine rotten and dead.

Whatever form of vine is desired, it should be remembered that the best bearing spurs grow from two-year-old wood and that this two-year-old wood should be growing on or around the crown at regular intervals to give the most space for the hanging bunches, at the same time by a free circulation of sap keeping the whole vine in a healthy growing condition.

Drainage, in some districts, is a question of vital importance to the welfare of the vineyardist, a water-logged vineyard with only a foot or two of soil available as feeding ground for

(Continued on Page 427)

BY J. W. MILLS, POMONA, CAL.

ADAPTION OF SOIL AND CLIMATE.

The disregard for the adaption of soil and climate in the growing of fruits is no douht responsihle for more loss to the grower than the ravages of insects and plant diseases comhined. A certain variety of fruit is planted and when it first comes into bearing good results are ohtained and immediately a lot of growers plant the same thing, only to find that the variety does not maintain its first vigor or productiveness. Its first success was either due to its vigor of youth or a chance succession of favorable seasons. Trees that fail to produce favorable crops after they get to be five or six years old are a worse pest than scale bugs or rust. They lead us on a will-o-the-wisp chase year after year, using up our time and money, to say nothing of our patience and opportunities. Olives were planted by the wholesale in Southern California hefore the profit side was worked out, just because the old mission trees grew well and bore some fruit Incidentally, Northern California caught the tag end of the olive boom as it does all the rest of the booms and has found that it can grow olives at a profit hecause the climatic conditions are favorable. Southern California has not grown them at a profit because the climatic conditions are not favorable. Had the Washington naval orange not fitted into the soil and climatic conditions as perfectly as it does, no amount of coddling or cultural persuasion would have enabled us to turn out over 25,000 carloads of oranges per year. Even here, two hours ride will separate sections which produce two distinct qualities of Navel oranges no matter how favorable the season may be, while in those sections which produce the finest, as a whole there are large areas which will seldom produce good fruit, due entirely to local climatic conditions.

* * *

The experiment station situated near Pomona has, or has had growing from 150 to 200 varieties of plums that have proven to be valuable in some section or other, either in this or some foreign country, but here, not over 15 or 20 are worth considering. Another striking instance is the behavior of some of the Persian grapes, which absolutely refused to bear at all in the Pomona valley, but produce enormous crops when grown in the Coachella valley. There could be hundreds of examples cited that would only emphasize these facts. It is very plain that a more widely scattered series of experiments carried on by the State would result in much more good than one station centrally located, even with the difficulties that arise from only partial control with co-operative experiments. This is the new policy of our Agricultural Department of the State university.

The marketing of "pig feed" ruins the market for better fruit.

LATE PEACHES FOR SOUTHERN CALIFORNIA.

Editor Cultivator: Will you kindly tell me what kinds of peaches I ought to plant for a late crop, both cling and freestone and about what time does each ripen and what is the color of each. We are looking for some that will he reasonahly sure to bear each year in this locality.

How about the Henrietta as a regular hearer and how does Orange Cling and also Lemon Cling bear in comparison?—Chaparral, Riverside.

Henrietta is the best late yellow cling we have. It is a sure hearer, equal to the Salway, which of course is a freestone. During the past 10 years there has not heen a failure of these varieties with us. The latter is a large yellow freestone that is ripe up to the 25th of Octoher. There are several varieties of peaches that ripen later than the Salway but they are shy hearers and not up to the standard. We are sure that they will not he profitable. Salway is pre-eminently the late peach for Southern California. It is large even when the trees are overloaded, of fine quality and a prodigious bearer.

Henrietta is not a desirable peach for table use except when canned. It is a good hearer and of fine quality and holds its load without propping as the tree is an upright grower, so much so that it requires pruning to spread it.

Orange Cling is not a sure hearer and produces a poor grade of fruit compared with the same grown in the northern part of the state. The Lemon Cling is a dead failure with us, it bears fairly well hut it is impossible to get marketable sizes. Canners will not take it and it is not fit for any purpose hut canning.

Dr. Pilkinton is a very nice white freestone that is just beginning to ripen now, the 1st of Novemher, hut we have failed to get more than five or six pounds from a tree in one season. The hirds always save us the work of picking the fruit. Our advice now is to stick to Henrietta and Salway and not try any other late varieties except in an experimental way.

* * *

OCTOBER PEACHES.

Editor Cultivator: I am looking for some information about peaches I want to raise some for grocery trade in Octoher. I have a few Salways but I want something later too.

I want to thank you for the information you give me each week.—R. H. B.

We can't do better than refer you to our answer to Chaparral of Riverside. The latest peach we have, Dr. Pilkinton, would hardly be satisfactory as it is a shy bearer. You would have to plant at least an acre in order to get so small an amount as 600 pounds.

Southern California has not proven to be a peach country. The trees don't act right and they do not turn out the fruit. There are a few varieties that are the exception, but we cannot count on recommendations that are based on experiments or records made in other sections.

WOOLY APHIS.

Editor Cultivator:—I enclose a twig from one of my apple trees. Will you please he kind enough to let me know what is on it and if it will harm the tree and if so what can I do to get rid of it? Yours truly, J. I., Upland.

Your tree is infested with wooly aphis. It is easy to kill the form above ground, hut you should look for the root form, which is by far the most destructive. Almost any spray will kill those in the tops—distillate is hest. For root form: Dig down six inches and make a basin three or four feet around tree, just before rains come. Distribute in this basin ahout three pounds of tohacco dust. The rains will carry this down and kill the aphis.

DYING ORCHARD.

Editor Cultivator:—I have in my orchard a spot of ground where some large live oak trees were dug out. The fruit trees did well for five or six years and then they began to die, one or two each year, and the circle is still increasing. Can you tell me the cause and what will stop it from spreading? Please answer through the Cultivator. —J. H. S., San Jose.

This matter of decaying oak roots killing other trees planted on the same ground is a very common one. Out in the San Gabriel Valley near Los Angeles, these roots have doubtless caused more "root rot" than all other causes combined. We have examined several cases, where the tree first looks sickly—leaves become spotted, off color, and small. Upon digging down, the old oak roots were found in a soapy mass. The trees had been planted for nearly ten years. This condition of affairs was found in the case of every sick orange and walnut tree examined. Live roots do not so affect the orchard trees. We know of no remedy except to take the old roots out.

Berry Plants and Grafted Walnuts

Grafted Walnuts on both the Native Black and English Walnut Roots. Also Santa Barbara Softshell Seedlings. Crandall Blackberry, Brandywine Strawberry and Loganberry Plants. Prices on application.

Toluca Nursery, G. Tosetti, Prop., Toluca, Cal.

THE VERNON NURSERY

4524 Central Avenue, Los Angeles, Ca.

Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.

Phone: South 1105 A. YARNELL, Prop.

California Concord Grapes and Kadota Figs

The undersigned makes a specialty of propogating the new variety of table grape known as the California Concord, and has 2000 vines for sale. Also the Kadota Fig Tree, which while resembling the White Pacific, is larger and sweeter, and the tree much excels the White Pacific in vigor of growth and productiveness. I have also my usual supply of soft shelled English walnut trees raised from selected nuts. S.H.Taft, Semi-Tropic Nursery, Sawtelle, Cal.

VINES Rooted Vines, all varieties, on their own or resistant roots.

Minnewawa Vineyard, Fresno, Cal.

BLUE GUMS

Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity.

Geo. B. Warner, Santa Ana, Cal.

Grape Vines

Wine, Raisin and Table Grapes on their own roots and grafted on Phylloxera Resistant Roots.

Write for our prices on everything in the nursery line. We can refer you to satisfied customers in every locality.

Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c postage.

Fancher Creek Nurseries, Inc.

Paid up Capital $200,000

Geo. C. Roeding, Pres. & Gen'l Mgr.

FRESNO, CALIFORNIA

Growers of Trees and Vines of All Sorts

CHICO NURSERY CO.

Our Specialties:

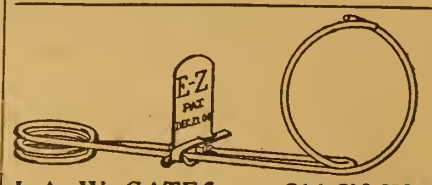
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS

Complete Line of

FRUIT TREES and ORNAMENTALS

Agents Wanted

Third and Walnut, CHICO, CAL.



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

DRIED GROUND TANKAGE

THE BEST AND MOST ECONOMICAL FERTILIZER

ANALYSIS { 10½ per cent Ammonia
18 per cent Bone Phosphate

WRITE US FOR PRICES AND PARTICULARS

Western Meat Company - - San Francisco

When writing to Advertisers Please mention Cultivator

BEEKEEPING FOR WOMEN.

Mrs. J. B. Ames.

Actual experience has proved beekeeping to be a profitable as well as a healthful occupation for women in California. The ready market for comb and extracted honey removes all difficulties in disposing of the product of the busiest of all animals and the mild climate permits the outdoor work necessary for the care of the bees during a long and pleasant season.

The woman who would keep bees, either to supply her household needs or with a view to earning a living, has but to understand and apply the two following very simple essentials to the profitable raising of bees. They are, first: that the animal life be properly nourished, and second: that Nature be so assisted by intelligent methods of keeping and reasonable care as to give best results to the keeper. But these essentials may be supplied here in California with a minimum expenditure of work and money. So many localities furnish abundant food for the bees that the question of feeding them is solved for the keeper, while by an intelligent selection of location and methods of handling the best results are easily obtained.

There being no winter problem in California, it is not necessary to carry the bees with six months' supplies into the cellar. In colder climes the bees are "wintered" in cellars, where from Thanksgiving until the middle of April the hives are stored in cellars for protection, in spite of which, however, winter loss is common. A beekeeper in Wisconsin writes: "On April 12th I took out the last bees. From then till the 22nd we had heavy frost and cold weather. On the 26th and 27th the weather is so unfavorable that one day they work and the next day they have to lay up again on account of high winds and cold." We in California have but to read this from an Eastern beekeeper to appreciate the advantages of California's wonderful climate for beekeeping. In fact, it has been the writer's experience that the bees not only stay on the same stands but also gather nectar every month in the year, so that in early spring they are in good condition to work and increase. All the work attendant upon the keeping of bees can thus be readily done by women and the prevailing wholesale price of ten cents per pound for comb and five cents for extracted honey yield a handsome profit to the industrious keeper.

That there is room and that there are abundant opportunities for engaging in beekeeping in California is shown by the present problem of disposing of the annual increase. And why should not women take up this industry since it is so pleasant and profitable an occupation for women? At present it is largely confined to farmers' wives and daughters, who already have many duties to perform, but the pleasant nature of the work bids fair to attract women who will be able to devote their attention and energies to developing the industry on a larger scale.

It is a well known fact that honey bees will select a home in a hollow tree and there not only attend to all their natural wants and provide for an increase, but also lay up a surplus store of honey. Climatic conditions in California are so favorable that it only remains for man to turn them to his benefit. Here there is no expense for feed for the bees feed themselves the year round. They not only feed themselves, but also feed and care for their young, thus relieving the keeper of much care so that there is no need to interfere with the increase except at the swarming season, then to provide new homes for the new swarms, where they can thrive and work and produce that delicious food the value of which I trust will some day be fully realized by rich and poor alike.

Although California's output of honey in 1905 will be the largest in many years, it will be quite insufficient to supply the extraordinary demand caused by the short crop in other States. One State usually leading in honey production will produce hardly a fourth of a crop this year while another is nearer to a honey failure than it has been for twenty years. Here is woman's opportunity in California to enter this profitable business, which has also always been to the writer a pleasant one.

HONEY AS AN ARTICLE OF FOOD.

Nine out of every ten people either think of honey only as a luxury, or look upon it with distrust, thinking that most of the honey on the market must be adulterated. If the people in general knew how much honey is produced, how economical and how much healthier it is than the many kinds of so-called table syrups manufactured, there would be such a demand for this most delicious product of nature, that the honey market would get firmer, There would be more demand, and consequently the bee industry would grow until we could justly be proud of what can be done in this line in this state. What has brought about such a condition and how to restore the confidence of the people to the most healthy, economical and toothsome sweetening known, is an important question. One of the causes of this condition is that very few people know and can get any reliable information as to what is being done in many small out of the way places in this and other States. It is impossible to get anywhere near the figures showing the number of colonies of bees and the amount of honey produced.

All honey shipped from this State is pure, and it is safe to say 99 per cent of the honey sold in the State is pure if it is produced here and sold for honey. A beekeeper would not mix adulterants in honey because it is decidedly to his interest never to sell anything but pure honey in the local market and retailers and commission houses could not adulterate it at a profit. Another cause of distrust by the public and depression in the honey market is the widespread publication of erroneous and untruthful statements about the adulteration of honey in many periodicals.

LIME ON ORCHARD SOILS.

There are numerous orchards that have made a good growth of trees and yet have never borne good crops. This is generally due to some deficiency of fertility in the soil. Frequently this deficiency is the nitrogen content, and the nitrogen content is low because the soil is acidy, which condition prevents the growth of leguminous crops. Nature's way of putting nitrogen into the soil has been by the use of large numbers of varieties of plants bearing pods, all of which have the power of taking the free nitrogen of the air and fixing it in soluble form in the soil. The instruments for this transformation have been plants of a fungous nature known generally as bacteria. These cannot exist in a soil which has too much acid, but acid can be easily neutralized by an application of lime, either in a caustic form, which is the burnt lime of commerce, or in a slowly soluble form, which we get in ground lime rock.

APIARY NOTES.

An expert in the United States Department of Agriculture estimates that the flora of the United States is capable of supporting ten times the number of colonies of bees it now supports.

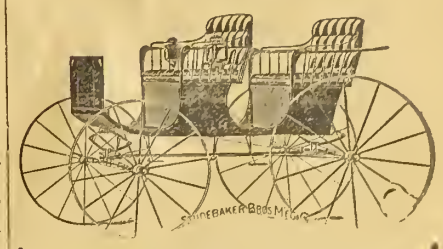
Mr. Frank Benton, in charge of the apiarian work of the division of entomology of the Department of Agriculture, estimates that the value of apiarian products annually amounts to $20,000,000.

A French writer says that beekeepers generally live to be old, but this longevity is not accounted for solely by the use of honey, but by the inoculation of bee poison, either by breathing it or being stung.

A pair of pruning shears can be used every month in the year.

Remove the wormy and perforated fruit from the trees.

Studebaker Vehicles



Stand Without an Equal

They are constructed throughout of the best material, by skilled workmen in the largest vehicle factory in the world. The wise buggy or wagon buyer will always purchase a

Studebaker

because they last longer and give better service than any other make.
We carry a complete line of the famous

Studebaker

Buggies, Runabouts, Phaetons, Farm Wagons or Harness

You cannot make a mistake in purchasing a

Studebaker.

Buy the best, the cheapest in the end. For economy, durability, strength and ease of running the

Studebaker

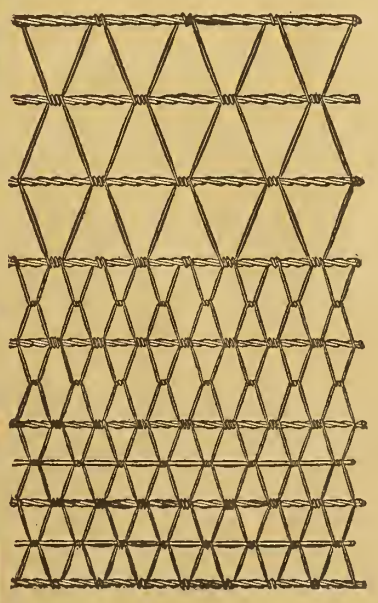
leads all other makes. Those contemplating a purchase should send for our catalogue or call and see us. We are local agents.

Newell Mathews Co.

200-202 No. Los Angeles St.
Los Angeles, California

ELLWOOD FENCE

We guarantee Ellwood Fence because we know how it is made. All the resources of the greatest steel and wire mills in the world are brought to bear in getting as near perfection as it is possible.



We mine the ore from our own mines, make it into steel in our own mills, draw it into wire and weave it into the fence—all under our own eyes from the ground until it is ready to staple to the posts. The best known processes are employed. Dealers in every place.

AMERICAN STEEL & WIRE CO.

CHICAGO NEW YORK DENVER SAN FRANCISCO

Beautiful and Productive

A Section Where Soil, Climate and Water Combine to Produce Prosperous Cardena

For the first time in a year we recently visited the productive section about Gardena and there was such a record of growth and improvement that even for California, it caused much surprise. Gardena has never claimed to be a tourist resort. It has no tourist hotel and has not become a residence section for exceptionally wealthy people, and for this reason it cannot be said to be one of the "show places" of Los Angeles County. But to the man from Missouri, it has the capacity of "showing" the true wealth of productive soil with abundance of water in this wonderful climate. Therefore there have quietly sprung up a vast number of cottage homes surrounded by small fruits, gardens and poultry houses. The holdings have been small, that is two, three, five or usually not over ten acres. This has led to extensive culture and to the securing from the soil, its greatest returns. Only occasionally the Chinese and Japanese gardener is seen. This is largely because of the Americans grasping the opportunity and occupying the land before the Asiatics secured their foothold. In other words the "Dutch have taken Holland."

The first question that comes to mind in seeing the vast quantity of products from this section, is, where is the water secured for producing them. It is quickly answered by the puff of the gas engine which is heard in any direction one may turn. One plant which we were shown, which was installed at a comparatively small expense, was raising in excess of one hundred inches of water at the time it was shown to us. This is made possible by the great quantity which is found in a deep bed of water bearing gravel only about one hundred and fifty to one hundred and ninety feet from the surface. This vein of water bearing gravel has been found to contain an almost inexhaustible quantity of water which always rises to within fifteen or twenty feet of the surface in some cases flowing in winter. Some of the ranches are supplied by a plant, operated in the interest of all who are members of a co-operative association. Other ranches have their own pumping plants and are entirely independent of the others. Within certain districts, which cover nearly the entire section of Gardena, Moneta and Strawberry Park, water may be found with certainty. All told there are about ninety wells in the community.

When we speak of Gardena we also include Strawberry Park and Moneta which are really a part of the section. The Strawberry Park people already begin to feel their importance and claim a little community all of their own, which seems to be justified by appearances on the line of the two electric roads which pass through this rich section. At Strawberry Park is erected a little station where the piles of berry crates as big as a small house were in evidence showing the magnitude of the small fruit business of that community and the wisdom in selecting the name for that vicinity.

Moneta is the older section of the three. Its main street is a continuance of Western avenue of the city of Los Angeles and is directly south of Hollywood. The village has several small stores and shops. Of the many products, of course small fruits are the greater factor, though the building of the Gardena-Moneta Co-operative Association midway between Gardena and Moneta, shows that dairying is a most important factor in the advancement of the community's interest. About Moneta the soil is very rich and an abundant producer when properly planted. In asking various of the producers as to the products best adapted to the section not only were the products of the dairy, of poultry, and of berry-fields stated as the producers of wealth but the possibility of onion culture and other garden products given first place. Onions have been grown in no great quantity but from the quality of the soil and the conditions which prevail, there can be no question as to the adaptability of that product.

* * *

Regarding the Gardena-Moneta Co-operative Association we may say that it has a membership of forty-two, shipping daily to Los Angeles retail market about 3,000 pounds of milk and the cream from about 2,000 pounds of milk. Last month a check received by the association for its products, amounted to $1,266. This association has been very satisfactory to its members and now owns a small strip of land on which the building is erected, all of which is the property of the members. It not only co-operates in marketing products of its members but in buying feeds and other merchandise as well, thus securing wholesale prices.

The berry growers are not so well organized as the dairy men but their efforts have given returns exceptionally satisfactory. One berry grower in Strawberry Park who has specialized on Cuthbert raspberries, refuses to give the exact returns for the past year, from his little quarter acre patch because as he said, it would be taken for a California story and he would not be given credit for telling the truth. The soil about Strawberry Park seems to be particularly adapted to raspberry culture, it being a rich, sandy loam and a soil which is most readily worked. This grower said that he had much better results from the Cuthbert's than from the New Rochelle or the black caps.

Mr. West, formerly a large grower of strawberries and a pioneer of the place told us that from a ten acre patch he marketed the second year over 140,000 boxes of berries which commanded from five to twelve cents. At present Mr. West finds alfalfa a very satisfactory crop.

Another advantage which is claimed for this section is the exceptional facilities for shipping the products into Los Angeles. The rate of ten cents per hundred pounds is secured and there is the advantage of two electric lines to carry the fruit. The shipping of berries occurs in practically every day in the year, though the busier part of the year is from March to September. Some idea of the magnitude of the business may be had from the fact that the daily shipment during the season is between three and four cars. Besides that there are other large quantities of vegetable and dairy products.

* * *

While not of important agricultural interest, yet of the greatest interest to the family of the agriculturist, we may mention that the conditions for moral and intellectual development are not least which can be said of this section. In Gardena there are two churches, Methodist and Baptist, at Moneta there are two churches, the Methodist and Presbyterian. In schools each of these districts including the Strawberry Park section has its grammar school while the three unite in a union high school which is at present held in the second floor of the Gardena grammar school building. Steps have been taken looking toward the construction of a creditable high school building embracing the three districts but as yet this is in the future. Another factor in the progress of the community, especially its agricultural progress, is a live, up-to-date Farmers' Club. C. W. Stephenson, its president, injects his energy into it to the end that its meetings are not only a pleasure socially but a benefit intellectually.

All told a home seeker will find no better section where a pleasant home may be made amongst a pleasant and thrifty people, where the soil responds quickly to intelligent culture and where a climate the equal of any in matchless California, than at Gardena, home of a happy people.

M E. Church, Moneta

Baptist Church, Gardena

M E Church & Parsonage, Gardena

Gardena-Moneta Co-operative Ass'n

Business Street, Gardena

Strawberry Park Pumping Plants

C.W Stephensons poultry yards, Moneta

GOOD CHURCHES AND SCHOOLS.

The views above give an idea of the well built churches, of the shipping of produce and busy streets. It will be observed that in the far background of pumping plant scene is a plant as well as the one in the foreground.

Residence and Pumping Plant of A.K Beem

Strawberry Park Ranch – O M Johnson

Home of B.E Jones

Home of Dr Miller

Home of C.G Force

Home and Pump House of L.H West

Home of H. W. Horn

PROSPEROUS HOMES.

As one drives over the section about Gardena, Moneta and Strawberry Park the most pronounced feature which impresses is the homelike appearance. The renter is scarce; the home owner is in possession.

CITRUS FRUITS

By C. A. Day. Pasadena

LEMON NOTES.

The Outlook For California Lemons.—There are different theories held by various expert lemon growers, as to varieties, methods of pruning, culture, irrigation, fertilization, forcing into bloom at the right time to secure summer lemons, curing and marketing. It may, with truth, be said that the lemon industry of Southern California has in the last few years, and is still, in the stage of development. Experiments and experience are teaching the lemon grower as to proper methods of culture and handling and the lemon industry of California is rapidly developing into a permanent and paying business.

The California lemon grower has in the past been in a measure handicapped by inexperience and competition of foreign lemons, which had an established reputation in our eastern markets, but with improvement in our methods of culture and handling, the California lemon is winning a reputation and standing in the markets of our country. In the case of all farm products there are periods of over supply and temporary depression of prices and lemon growing in California has had its share of these. But with an established reputation in the market and a reduction of the lemon acreage from the budding of lemons to oranges, the outlook at the present time is very good.

One of the mistakes made in the past has been in the planting of lemons in locations totally unfit for successful lemon growing. Lemons require a nearly frostless location in order to produce lemons for the summer market, the only market that gives paying returns. Many of the lemon orchards that were planted in locations unfit for lemon culture have been taken out and budded to oranges.

In some sections a very much better quality of lemons are grown than in others, probably due to the quality of the soil. The process of weeding out the poorer quality of lemons and the survival of the fittest will result in the raising of the general average in the quality of California lemons.

The lemons of the Semi-Tropic District Exchange have during the year past, given the highest average net return, $833.71 per car of any district exchange of Southern California.

Mr. Leffingwell's lemons have made net returns during the summer of from $1000 to $2400 per car, the latter price the highest for any car of lemons sold by the Semi-Tropic Exchange.

The writer heard Mr. Leffingwell remark that his average yield would be one car of lemons per acre. We have in this case an instance of a lemon grower with 125 acres, who has by correct methods of culture and handling, succeeded in producing a uniform pack of fine quality and won and established an enviable reputation for his lemons in the eastern markets.

* * *

Fumigation as a Stimulus to Produce Fall Blooming Lemons.—Mr. Volney Craig of Lamanda, with 60 acres of lemons holds to the theory that fumigation is a stimulus to the lemon tree and results in free blooming in the fall. It is a well known fact that for a summer crop of lemons we must get the trees in full bloom in the fall of the year. When questioned as to his experience, Mr. Craig stated that he fumigated in the years of 1900,1901, 1904 and secured good crops of summer lemons.. The fumigation for 1905 has been followed by free blooming of the trees.

Mr. Craig's plan has been to fertilize with blood fertilizer 30 days preceeding the fumigation and follow the fumigation with a thorough fumigation in basins, thoroughly wetting the whole surface, the irrigation for the rest of the year in furrows between the rows. Whatever effect the cyanide may have in stimulating the forces of the tree, this we do know, that it destroys the crop of scales and fungi, and opens the pores, which would in this case have the effect of a stimulus to the tree, this in connection with the stimulating and forcing effect of the fertilizer and heavy irrigation would tend to bring out the bloom immediately after. In referring back to the years in which fumigation apparently produced a good effect upon Mr. Craig's orchard, in the years 1902 and 1903, the orchard was not fumigated and the crops of lemons in those years were light. As the Craig ranch has its own water plant the supply is always ample and there is no stinting at any time in the amount of water supplied to the trees. Some of our lemon groves practice pruning early in the fall as a means to force the trees into bloom. With proper culture marketable sized lemons will be produced from 8 to 12 months from time of blossoming. The lemons in the interior of the tree maturing first and those near the end of the branches last. The application of fertilizer early in the fall is important and along the line of applying nitrate of soda to orange trees just before the blossoming season.

Lemon trees should not be forced into bloom too late in the fall, the very small lemons are susceptible to injury from frost which usually comes in the last of December and in January.

* * *

The first quality of lemons are those which come to merchantable size while yet green. The culture, fertilizing and irrigation should be such as to bring the lemons to this size before they begin to change color. The forcing process should be constant and even, in order not to produce coarse, inferior fruit.

* * *

Pruning Lemon Trees.—In practice, there are several systems of pruning the lemon, but all agree that it should be headed low with broad open top. The low head facilitates the picking from the ground, the breadth of top gives space for a large yield of fruit and the open top gives fruit in the interior of the tree. The latter is an important feature, as the fruit in the interior of the tree matures first and with fall bloom will be ready for the early summer market.

* * *

When to Prune.—With young trees some growers prune three times in the year, the object being to grow the desired head without unnecessary waste of the vitality of the tree in growing superflous wood. With old bearing trees, some growers prune throughout the year, removing from time to time the surplus sucker wood and diverting the vitality of the tree to the fruiting wood. There is a class of growers who make a practice of pruning once a year and then have to remove a large quantity of upright sucker growth. To my mind this seems a useless waste of the vital forces of the tree, to allow this wood to grow the entire year.

Different varieties of lemons have different habits of growth and the pruning should be governed accordingly.

SAVING THE WASTES.

The Cultivator has very often made a point to the effect that greater efforts should be made toward saving the wastes of the farm, especially of the fruit orchards of the State. It has always been found true that the market had plenty of room at most remunerative prices for high grade fruits particularly, but, that often the price of the best grade of fruit is affected by the vast quantity of inferior or indifferent stuff which is offered. Yet rather than see such fruit go to the dump, an absolute loss, the average farmer will pack it as best he can, pay freight on it to market and run the chances of securing costs and a little for himself besides. To overcome this system of handling indifferent fruits, various factories and canneries have been established to handle such products. For marmalades of citrus fruits, factories for processing candied peel and the manufacture of citric acid have been established. There are at Riverside and at Redlands good sized works where marmalades and candied peel are manufactured. But of course in comparison to the vast quantity of cull fruits of the State these are merely a drop in the bucket.

Now another factor is in the field which will be enabled to handle greater quantities than those which have heretofore made the effort to handle these goods. This is not only because of the fact that the works are larger also from the fact of the putting up of a cheaper product which will command vastly greater consumption than any heretofore outlined plan. The idea is not to put up a fancy high priced article so much as to concentrate various fruits for use and economical transportation and in such form as to be of value to bakers, confectioners and even for use in the commissary department of the army.

The process by which this is done has been studied out and introduced by the Sherman Cancentrated Fruit Co., of San Francisco, and now the company has a branch in Los Angeles which is in a large part owned by Mrs. Delia R. Rawson, who is its manager. Mrs. Rawson recently showed the writer various products manufactured by these processes, one of which is the highly concentrated juice of the lemon, a little of which on the point of a spoon stirred in a glass of hot water made a glass of very choice flavor and as refreshing as the fresh juice of the lemon. Another product was orange flour which might be prepared for the breakfast table and eaten as a fruit or used in making pastries, cake and various other baker's uses. Still another grade, especially of oranges, where the fruit pulp is reduced in the vacuum pan until it becomes the constituency of leather. This is taken and used as mentioned above for fillers for pies, and cakes but does not make an attractive appearing dish for serving at the table.

This process is especially valuable in taking up waste berries from the market, plums, prunes, apples, in fact any fruit and many of the vegetables which are found in the market. One product which we tasted, which was most delicious to eat directly from the hand was the reduced pulp of raspberries from which all the seeds had been removed. This product was sweetened and was equal to a confection. This and many like products are valuable for sauces, syrups for soda fountains as well as pies.

The United States Department of Agriculture has made a careful examination of some of these products and reports that this solidified fruit is distinctly compact, non-elastic, comparatively impervious to atmospheric moisture, yet quickly dissolvable, digestible, free from fiber and retaining the natural flavor of the fruit, though it has lost entirely the original form of the fruit; in contrast with the dried fruit, which is spongy, elastic, quickly absorbant, yet not dissolvable, except after long soaking, accompanied by mechanical agitation, retaning the original fiber of the raw fruit and requiring cooking before being suitable for food.

The new product is entirely distinct from "dried fruit" as understood in trade and commerce in this industry, and no comparison between the two could arise.

In comparison with fruit paste, this produce differs in that it does not necessarily contain the added sugar, to insure it against decay and deterioration, the addition of sugar being to suit the taste of the consumer. It contains the natural flavor of the fruit and is dissolvable into either fruit pulp or juice by the simple addition of water, whereas fruit pastes have undergone chemical changes in the process of manufacture which render their restoration to their original pulp or juice impossible.

Mrs. Rawson showed us many letters commending the product from bakers and other consumers.

We wish the Sherman Concentrated Fruit Co. success and hope the growers will find in it a profitable means of waste disposal.

VALENCIA LATE ORANGE TREES

Are scarce. We will have about 75,000 citrus trees, nearly all 2 years from bud and mostly Valencias, and we are offering them cheap. Give us your order now before they are culled over. Also have some Marsh's Seedless Grape Fruit, Dancy Tangerines, Navelencias, etc. We can furnish these from our Glendora nursery, or other nurseries. Address

Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Peas 500,000 Pounds Two Hundred and Fifty Tons **Peas**

Nitro Culture doubles your crop. Every purchaser of one carload of peas may secure Nitro Culture Bacteria at agent's price. Write for prices and particulars.

Johnson & Musser Seed Co. 113 N. Main St. Los Angeles, Cal.

CALIFORNIA FERTILIZER WORKS, Inc.

538 CLAY ST., SAN FRANCISCO, CAL.

SPECIAL FERTILIZERS MADE TO ORDER

As we produce our own Bone, Blood, Tankage, Sulfuric Acid, and manufacture our own Phosphate, we can sell high grade commercial Fertilizer at low rates.

MANUFACTURERS OF

Pure Bone Meal and Complete Fertilizers

Producers, Importers and Dealers in Fertilizing Material of All Kinds. Send for our prices before buying elsewhere, and you will save money.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

RAISING PLANTS FROM DATE SEEDS.

It doesn't take such a long time to raise plants from date seeds as some seem to think. Examine the flat side of a date seed. In the middle you will find a small round hole. File over this carefully until the white germ shows, and then plant it and keep it very moist. The warmer the place you set the pot in the better. Fresh seed will sprout in ten days or two weeks

KEEPING CANNA BULBS.

I would say to those who have trouble in keeping canna bulbs that the secret is never to place them with the tops up, after you have cut them off. After digging them up, spread them out on the floor until the dirt is dry on them (keeping the roots turned upward all the time). When dry, pack them in a box with dry sand or soil, cover and set away until spring. In Winter, after the first hard frost, our cannas never look well and seldom make good growth until April, so that during winter the ground may as well be taken up with some other plants, and the canna clumps held for planting until April.

FREESIAS.

When the gardens are redolent with the sweet, apricot-like fragrance of Freesias, is the proper time to mark and secure the flowers from which bulbs or seeds are wanted in the future. There are two varieties in cultivation—one and by far the most desirable, is milk white, the other a rather dull shade of pale yellow. Intermediate between these are variously striped, spotted and mottled hybrids, and so freely do the two species hybridize and sport, that it has become practically impossible to procure seed whose purity is to be depended on, unless the grower is certain that there are no intermediate forms in the immediate vicinity.

For this reason, if the pure white form is desired, it behooves the future planter to make the selection when the bulbs are blooming and to make critical inspection of neighboring gardens as well, otherwise he is without assurance that his seedlings will not turn out contaminated by the busy bee.

Some growers of considerable experience hold to the fallacious idea that the bulbs in time change their character, and that such as originally produced pure white flowers after three or four years, if undisturbed, become largely converted to yellow. There is no reason to doubt that this metamorphosis has been effected by the chance cross fertilization of a single flower by a bee or some other insect, and from the resulting seed springs bulbs of such vigor, that in a few years they can quite repress and supplant the original stock.

There are no exotic bulbs in cultivation in California not excepting a calla that is more tolerant of abuse than a Freesia. A Freesia never dies unless crowded out of existence, or unless disease enters the bed. Ordinary maltreatment is more than congenial to them. Dropped in a gravel walk they will spring up and flourish fairly well, cheerfully unmindful of such small episodes as being walked upon while in leaf. They are of course responsive to generous treatment and with an annual top dressing—make returns in size and abundance of bloom.

OLD FASHIONED FLOWERS.

Gardens of old fashioned flowers appeal to everyone as they mean the same sentiment to all of us. The varieties of flowers comprised in these gardens are such that anyone can grow them, just as our grandmothers did. If you have never tried one, by all means decide to have one next year.

Wash the soil from the roots of roses that have become "potbound" and repot in fresh soil.

FLOWERS IN THE HOUSE.

The old notion still holds among many people of this and other lands, says the Family Doctor, that flowers are not wholesome in a sleeping room. Certain plants, among which are the geranium, the lily and the begonia, are supposed for some unexplained cause to give off an odor at night especially obnoxious, but scientific knowledge and numerous experiments have repeatedly disposed of these delusions. It is true there are a few tropical plants which give off a perfume unhealthful to breathe at any time, but these plants are rare.

The green leaves of all flowers are, on the other hand, most beneficial, since they purify the air. That doctors are beginning to recognize this is shown by the fact that a New York hospital has a flower ward, which is used for the treatment of suitable cases. Persons confined to their bedrooms with a bad cold, influenza, bronchitis or even consumption cannot do better than surround themselves with pots of any kind of plant that has a profusion of green leaves. Geraniums are the least valuable in this respect, and strong smelling flowers like musk, should be avoided.

How the leaves act as therapeutic agents is easily explanied. What renders the air of a room stuffy and unwholesome is the carbonic acid gas we breathe forth. Green leaves, however, breathe it in, consume the carbonic acid gas and breathe forth pure oxygen. Moreover, they give off in vapor the water taken up by the roots and thus act the part of a bronchitis kettle.

ENGLAND'S GARDEN CRAZE.

The garden craze of the last few years, for which we predicted a brief life, although a merry one, has become what its real votaries thought it would—a source of permanent interest.

This emphasis of enthusiasm has brought about the cult of the garden ornament, and those who are able to afford to do so, are searching far and wide for some piece of sculpture that shall harmonize with the style of the gardens, be they Elizabethan, Jacobean, or of the Georgian period.

Until one remembers the depredations of the Puritans during the civil wars in this country it is difficult to understand how it is that the Elizabethan and Jacobean periods did not produce a greater number of pieces of garden sculpture than they did. Most of the images of the Jacobean gardens the Puritans demolished, particularly if they were lead, a favorite metal in those days for the manufacture of such ornaments. Lead of every kind was precious for the formation of bullets.

Lead images are now highly prized for garden ornaments, and so are those made of terra cotta, and, of course, of marble and stone.

There were many quaint conceits in garden ornaments in the days of long ago that did not appeal alone to the beauty loving eye, but aroused the practical joker of the period. Any one who has visited the czar's summer palace of Peterhof, near St Petersburg, will remember in the garden at one of the small villas adjacent to the palace, trick fountains, as they are called, innocent looking marble seats, upon which no sooner has the visitor sought repose than he is drenched with a shower of water. Such trick arbors and trick seats were quite a feature of the gardens of long ago.—London Mail.

RURAL CONTENTMENT.

"Some way when I visit in a village or city, there comes over me a pent-up feeling. The sameness of it is tiresome, and I doubt if I could enjoy it as well as my country home with its broad, fertile acres. Back of the house we see the hills and woods, and I often think of the words, "'The strength of the hills is His also." I wonder if I should be as contented, should I ever leave the home where the happiest and best years of my life have been spent."

SEEDS
PLANTS
AND EVERYTHING
FOR THE GARDEN
THEODORE PAYNE
416 W. 7TH ST., LOS ANGELES

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, ETC
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

SECTION OF YEAR-OLD PLANT PHOTOGRAPHED IN THE FIELD

Buy Burbank's Rhubarb

This creation of California's plant wizard is practical for you in your garden. It's ever-bearing—(Winter, Summer, Fall and Spring.) Crimson flesh. Never stringy. Stalks small but juicy. Tender and luscious as a berry. Needs little sugar. Everything you've wanted rhubarb to be.

Roots **Northern Grown & Robust.** Three year's successful bearing in our trial grounds. Require but little water. Plant now and cut this season.

How to Cook the Rhubarb.—Since the Winter Crimson requires much less sugar than the ordinary varieties, a few suggestions as to how to cook it may be found useful. The color of the rhubarb before cooking is of a greenish crimson which, when cooked, turns into a rich, clear shade of crimson. Bake slowly in earthen dish, sprinkle lightly with sugar and just cover with water. For making jelly and preserves it is excellent, and its medicinal properties are fine.

Price prepaid, small roots 25c each, $2.50 dozen; larger roots 50c each, $5.00 dozen.

CHAS. H. LILLY Co.
Seattle Portland San Francisco

Mail this order TODAY before supply of these roots is exhausted.

CHAS. H. LILLY Co. SEATTLE, WASH.
Enclosed is $..... (in money order, draft, stamps) for which send me (prepaid) .....large, ...small BURBANK'S RHUBARB ROOTS. Please send me free, (postpaid) your Plant and Seed Catalog.
NAME .....
ADDRESS .....
R-11

Lilly's Puget Sound Seeds and Plants are grown for this climate

CRIMSON WINTER RHUBARB BEARS WHEN ALL OTHER VARIETIES ARE DORMANT

In the Vegetable Garden

ONION GROWING.

The first thing to determine is what sorts will sell best in the market, when to plant and how to cultivate them in order to have them ready for the market at the right time.

The next and most important things for those contemplating an onion crop is that their seeds be of the best and of the variety the commission men and consumers demand. As much depends upon the superior quality, care in selecting very rich, fertile soil must be used in preparing the planting beds, adobe and heavy loam being barred entirely.

From choice seed comes smooth, nice well shaped onions while from poor seeds you get all colors not true to name and classed by commission men as doubles, splits, scullions and rough tops all undesirable.

Another precaution to be borne in mind by new beginners is the acreage, as onions are a crop demanding much cultivation and one acre well cared for will net the grower better returns than five acres poorly tended.

As soon as the crop is ready for harvesting, it is necessary to have drying barns or sheds to cure them in, as direct contact with the sun will damage them so as to make them unfit for market.

Texas growers who had good barns to dry their onions in, this year made from $260 to $300 per acre, while others without drying barns failed to make expenses.

The most successful Texas growers plant their seeds in beds about two and a half or three feet wide, usually with a drill, making the rows about six inches apart. After the seed is drilled they cover the ground with straw or hay so as to protect the seed from the sun until after it germinates and to keep the ground moistened until after the transplanting season, when the onions should be about as large as a lead pencil. Then they make a bed wide enough to hold twelve rows about a foot apart by throwing up a border on each side.

Onions are planted about five inches apart in rows and just as soon as planted are flooded with water and as soon as the ground is dry enough they are cultivated with a hand cultivator. This is repeated about every seven or eight days. The ground must be kept moist and not allowed to bake, or the onions will be ill-shaped, which will make them of much less value.

To successfully grow onions and get desired results the land must be cultivated often and kept in the very best condition.

CRIMSON WINTER RHUBARB.

Mrs. T. B. Shepherd.

The most valuable acquisition to the horticultural world in many years is the new everbearing crimson winter rhubarb, tested, introduced and recommended by Luther Burbank. It promises to become the most profitable thing the soil produces. Its superiority in every way to the old deciduous rhubarb makes it by far the most desirable variety worth growing in California.

This new prodigy of the soil is everbearing, requires no stringing, has a mild acid taste combined with a delicious berry-like flavor, and when properly cooked its sauce is a most beautiful bright strawberry red. There is no fruit offered in the market which when stewed excels it, either in delicacy of flavor or in beauty. It is easily grown and comes into bearing the first year, paying all the expense of plants and cultivation, picking, packing, etc., and a handsome profit besides; while the following years the profit is enormous. From a little over three-quarters of an acre last year the writer gathered and shipped seven tons of stems from January 10th to July 10th, at which last date the plants were seventeen months old. We received 4½ to 5 cents per pound. A much better price could have been realized if we had sought a market outside the State where winter prevails during the height of this fruit's season.

This rhubarb is very easily grown. The roots instead of being chunky like the old variety are long like the parsnip and grow from 12 to 18 inches in length. Young plants about the size of a penholder set out even as late as July, if properly cultivated and cared for, will come into bearing by Christmas. The plant usually sends forth from six to ten crowns, but frequently make many more, and as fast as the stems are pulled others take their places. They are at their best from October till June.

Although the plant is everbearing, it is well to give it a rest during midsummer if a heavy crop is desired during the fall and winter. The stems can be used at all seasons, and the sauce, like that of the apple, possesses the great merit of being always welcome, having a peculiar flavor of which one never tires. It can be used as a standby at all seasons of the year. A fruit so highly appreciated in a country like California, where fruits are abundant at all seasons, must be hailed with delight in those regions where winter reigns many months in the year, and where the delicious products of California's sun-kissed orchards are hailed as welcome visitors.

Crimson winter rhubarb will grow in any good rich soil, and requires no fertilizer. It takes from 3,000 to 4,000 plants to the acre, and after becoming established requires water but three or four times during the dry season. To make a success of this plant financially it should be grown in such quantities that it can be shipped by the carload. There is not only the home market to be supplied, but the shipping market is always hungry and can be retlied upon as a regular outlet for an immense product. The cultivation of this new wealth-producer is an occupation in which any intelligent energetic woman can succeed, and I hope in the near future that women, realizing the handsome profits and healthful work connected with its cultivation will be leading in the industry and growing hundreds of acres of this rhubarb. I know of no product the ground can produce that will yield greater profit with less labor and in a shorter period than crimson winter rhubarb.

OUR CELERY—HISTORICAL.

The celery industry was first introduced in Orange county by the late D. E. Smeltzer, who came west about fourteen years ago in search of celery and winter vegetables for his commission house in Kansas City. After a few weeks spent in the vegetable districts about San Francisco, he came to Los Angeles, where E. A. Curtis aided him in securing some celery, of the old green top variety, to test its shipping qualities. The first shipment was a complete failure; but later in the season, by new methods of packing, they were able to ship the celery successfully.

During Mr. Smeltzer's stay in Los Angeles he learned of the peat lands of Orange county and after a visit for inspection as to its natural advantages and adaptability for celery growing, he secured a piece of this land.

Wild celery growing here to a height of six or eight feet was sufficient evidence of the soil's fitness for his purpose.

The first two years, however, were failures, for various reasons learned later. The third year proved more successful. A fair article was raised and several carloads shipped to Kansas City with satisfactory results. From that time until the present the industry has grown steadily. At the present time the industry is on a substantial, profitable basis, far beyond the dreams of the pioneers of the district.

The natural advantages of the Orange county section are: richness of soil; artesian wells, to be had at a depth of 100 feet, which furnish an abundance of pure water, that is very essential in growing celery; climate perfect, situated as it is on the coast, with the ocean breeze by day and fogs by night. The winters are also desirable, as the thermometer very seldom drops below the freezing point—in fact, being on the coast, it is afforded an even climate. We attribute as much to the climate as to the peculiar nature of the soil.

The consumption of celery has increased surprisingly in recent years, and the demand is fully equal to the supply.

CRIMSON WINTER RHUBARB Selected seed $12 per pound o. $1.00 per oz. J. DENT, R. D. NO. 1, VENTURA, CAL.

Strawberry Plants

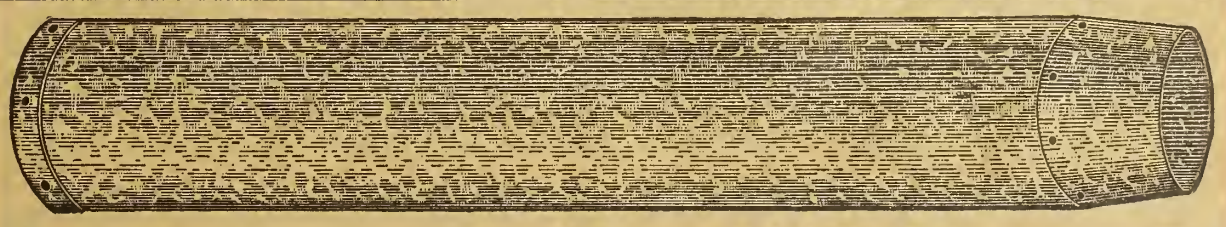
200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address F. S. Lee, Pasadena, Cal. Phone Main 922

LAXTON'S NOBLE STRAWBERRY PLANTS
400,000 First-Class Plants. Prices on application
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

NATIONAL WOOD PIPE CO.
MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR
WOOD PIPE
WOODWARD FATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BOREO WOOD WATER PIPE
Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

Greatest National Bank West of Denver and South of San Francisco
First National Bank
United States Depository for Government Funds
CAPITAL, SURPLUS AND UNDIVIDED PROFITS, OVER $4,000,000.
DEPOSITS, $13,500,000. TOTAL RESOURCES, $18,000,000.
We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.
PRESIDENT—J. M ELLIOTT.
VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS.
CASHIER—W. T. S. HAMMOND.
First National Bank
Los Angeles, California



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE.
TALLERDAY MANUFACTURING CO.
PHONE: ALHAMBRA 301 DOLGEVILLE, CAL., the Manufacturing Suburb of Los Angeles
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco. Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 3, 1905

CONTENTS.

	Page.
Growing Raisin Grapes	411
Adaptation of Soil and Climate	412
Late Peaches	412
Beekeeping For Women	413
Story of Gardena	414
Lemon Notes	415
Saving the Waste	415
Flowers in the House	416
Onion Growing	417
Editorial	418
Coast News Notes	419
A Profitable Dairy Farm	420
The Milking Quality	420
Butter Package Marking	422
Veterinary	422
Biddy and the Incubator	423
Poultry Questions	424-5
General Agricultural Notes	426
Household	428-9
Markets	430-1

CURRENT EVENTS.

Opposing the Rule.—The new rule of the Postmaster-General permitting mail matter to be sent in rural districts, by number, is creating much dissatisfaction, it seems, among merchants in the districts affected by the order. The large business houses are sending their catalogues out to individual addresses by number and it is claimed orders are being sent these houses for goods, which of right should be sold by the country merchants.

In the household department, this work, a lady writes commending the system of mail orders. She thinks it fine for farmers' wives who are thus enabled to get what they need from the city stores without taking the time to go for them. It will be seen that from the view of the farmers' wife the scheme is all right, but from the standpoint of the merchants it is all wrong.

In the old countries where the package delivery system obtains, it is immensely popular with the common people. It will grow to be popular in this country, as its scope enlarges, but it will seriously cripple merchants in the rural districts.

The question is a delicate one to solve, for while it may be answered in the affirmative for one class, it is a negative proposition for the other. But we anticipate that the rule will remain in force. It is a progressive one and this is emphatically a progressive administration.

* * *

A Fine Appointment.—President Wheeler has just appointed Mr. J. B. Neff, of Anaheim, as a conductor of Farmers Institutes in Southern California. Mr. Neff is a well-known fruit grower of Orange county and has been for years, a leader in the local association of walnut growers and manager of the Southern California Deciduous Fruit Exchange. He has also been prominent as a speaker at Farmers' Institutes in Southern California and is thoroughly in sympathy with University extension in agricultural lines and will proceed energetically in organizing meetings to be held during the coming winter and spring. Mr. Neff's residence at Anaheim will be of advantage in his work as it is a central location in a county of notable agricultural specialities, as well as greatly diversified agriculture. All localities in the counties south of the Tehachapi mountains desiring Farmers' Institutes are invited to correspond directly with Mr. Neff.

* * *

The President a Hummer.—President Roosevelt is the only president the country has ever had who will have visited every state in the Union during his term of office.

With the wind-up of his southern trip he leaves but one State untouched and he declares he will tread the soil of this one before the expiration of the year.

The remarkable homage paid the President in the south is a record breaker. It has surpassed that of Lincoln, or Grant, when these men were central figures in the most trying periods of the nation's history—not in the south of course—but in the north where the enormity of their services were felt and by a grateful people appreciated.

But Roosevelt has gone into the enemies' country, battered down the walls of party strife and sectional hatred, and won to his embrace a people who never before loved a northern president. He has talked to hundreds of thousands about their duty as citizens, urging them to the highest value of progress and good fellowship and condemning any hatred of factions or race prejudices. And at the last these people have heard and embraced his doctrines. Booker Washington says "his coming breaks the dawn of a new day for the black men of the south."

Let us hope from this day forth, no occasion may ever arise when the comity of love and goodfellowship breathed by the President upon both north and south shall be broken, but as one country, under one flag we shall march on to that high destiny intended for the Republic from the beginning.

* * *

Sacramento Valley to be Irrigated.—The Senate Chamber of California's Capitol at Sacramento was the scene on October 21st of an irrigation meeting of unusual importance. It was a convention of Sacramento Valley people called for the purpose of considering plans for developing what is declared by leading engineers to be the greatest irrigation opportunity on the American continent.

Governor George C. Pardee, of California, who is also President of the National Irrigation Congress, presided at the meeting, which was called by the Sacramento Valley Development Association, an organization of Sacramento Valley counties. Men prominent in State and National affairs were there, leading citizens from every portion of the valley, representing large private interests, counties, municipalities, and organized commercial and improvement bodies.

The result of the meeting was a strong declaration for united effort by the people of the entire valley to bring about the early construction of some portion of what the officials of the Reclamation Service call "the great Sacramento Valley Irrigation Project." A resolution was unanimously adopted pledging the united support of the entire valley to such locality as may be selected by the engineers of the Reclamation Service as the proper place of beginning.

* * *

Japs Leaving the Country.—The Pacific Coast is threatened with an exodus of its Japanese people. They see a grand future in the territory now ceded to the Mikado in the terms of settlement between Russia and Japan, and with the keen perception which is characteristic of the race they are hustling to improve their opportunity.

Already more than one hundred prominent Americanized Japanese have sailed away to return to this land no more and it is said the outgoing tide has only just begun, and that its results will be to carry out from California the most of the present Japanese population, and particularly the best of the Japanese business men. They declare that not for many years at least, will the Japanese immigration again head toward this coast.

Manchuria and Korea are the lands of promise which lure the Americanized Japs. It is also the loadstone which is attracting the men who otherwise would come to California.

In those countries, say the Japanese there is ample opportunity for all the overflow of population of the Mikado's empire. The natural resources are practically undeveloped, and both in agriculture and in business channels are already opened to the enterprising Japanese opportunities which look inviting.

The cable despatches have told from time to time of the sending of great numbers of the soldiers to Manchuria, where they are to resume their civilian lives. This class, mostly, are common laborers, with a little advantage from their military experiences and the broadened experiences thus gained.

A certain percentage of the business and professional men of Japan are going to the two countries mentioned: but to the ambitious Americanized Japanese the field opens with even better promise.

Western methods and western machinery are used in nearly all the large enterprises. In this the men who have been here, and who have had the advantage of several years of familiarity with these methods, have a great advantage. They are not slow to see the opportunity.

With the going out of the skilled Japanese domestic and floriculturist this coast will feel the loss. Who will be found to supply the deficiency is not apparent at this time. California will need skilled workmen. The agricultural colleges of this state, and the coast, should be turning out accomplished floriculturists and gardeners to supply the places of our foreign workmen.

* * *

The Empire Rent.—Russia is still the storm center of the world. The close of the Japanese-Russia war transfered the scene of conflict from the battlefields of Manchuria and the north to the inland country of the Empire. Not since the fall of the French Kingdom has such a mighty revolution stirred any country as that which is raging today in benighted Russia. We use the term benighted in its broadest sense for it is to be doubted if in a territory so broad as that possessed by the Czar of all the Russians, there is to be found the same per cent. of illiteracy as exists within that realm.

From one end of the Empire to the other revolution is rampant, life and property are in jeopardy and "uneasy rests the head" of the monarch of the Empire.

Why is this thus?

Because the people are demanding that the shackles of bondage which have been forged about them since the Empire was founded shall be stricken off. That liberty of thought and education shall be allowed free scope, that the common rights of God's sons and daughters shall be permitted to a race too long held in slavery.

What is to be the result?

The Empire will fall unless the rights of the people are encouraged. The Czar and his advisors will go down in the earthquake of public indignation unless he rises to the demands of the hour and makes his Empire one where liberty abounds. Today all the commercial and industrial interests of the country are paralyzed. The people are enraged, and the government is impotent to stop the progress of internal dissension. The hope of Russia's future rests alone with the Czar, and he is but a child in the hands of the implacable enemies of civilization.

Premier Witte has recommended the elective franchise for the people, participation in legislation and the abolishing of martial law. The telegraph dispatches now say the Czar has granted in part, the wishes of his subjects. It is to be hoped the report is true. The people do not appear to have faith in the manifesto, they doubt the sincerity of Nicholas in granting civil liberty for up to the present hour he has never shown that he could rise above the mandates of his autocratic advisors. In the meantime the world waits in anticipation the final determination of events.

* * *

Result of the Chinese Boycott.—The feeling of the Chinese people toward America is shown in the action of the natives this week, in an attack made on Rear Admiral Train, Commander-in-chief of the American Asiatic squadron outside of Nankin. The Admiral in shooting pheasant, accidently hit a woman, whereat, hundreds of natives surrounded the Admiral, knocked him down and took from him his gun. Lieut. Train, who was with him was held as hostage.

The affair may create international complications, for the ugly disposition heretofore exhibited by the Chinese in waging a boycott war upon American goods shipped into China shows the temper of the natives. Of course the accident is to be deplored, but the subsequent conduct of the natives only shows the condition of the public mind and how small a matter may kindle international complications and possibly render it necessary for this government to administer a caustic reproof to the irate heathen.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

Riverside has shipped this season, nearly 6000 carloads of oranges and lemons.

Newton Pippins of this year's crop shipped from the Pajaro valley are selling from $3.60 to $2.85 a box in London.

Nearly 1000 carloads of fruit have been shipped from Vacaville this season, a heavy gain over the shipments of 1904.

As the prune market is badly off color at present there is nothing doing in Pajaro valley prunes. The bulk of the crop is in the hands of the growers.

There is a rapidly growing demand for California grape syrup, and the Tulare county factory expect to enlarge the capacity of their plant as soon as possible.

Professors Waite and Smith of the University of California have started a thorough campaign against the pear blight in Northern California, beginning their campaign about Redding.

The Fullerton Walnut Growers' Association has opened its packing-house and will move two cars this week. The association estimates its output for the season at forty cars.

The first carload of navel oranges, ripe and well-colored, were shipped from Lincoln, Placer county on Oct. 16th. This was probably the first shipment in the state.

One of the largest Placer county orange growers has made a careful study of the total cost of producing a box of navel oranges up to the packing-house and computes it at eighty cents.

The Orange Growers' Cash Association has let the contract to J. W. Carroll for a new packing house at Highgrove. It will be built on the line of the Southern Pacific and will cost complete $3950.

The Arlington Heights Fruit Company has received $1923 net for a car of 312 boxes of Squirrel and Palm brands of lemons. The sale was made in Providence. Another car brought $1917 in New York.

The total shipments last season to last Saturday were 29,845 carloads, of which 4250 were lemons, a total of 25,595 carloads of oranges from Southern California alone. The total amount of money involved was $23,756,000.

Close on to 40 tons of table grapes and late peaches have been shipped by Wells-Fargo express from Hemet and San Jacinto during the past month, and for next year the parties who are shipping prophesy about double that amount.

One thousand carloads of grapes have been shipped from Lodi thus far this season of which sixty per cent. were table grapes and forty per cent. wine grapes. Four hundred tons of grapes have been crushed at the winery.

John Isaac, Secretary of the State Horticultural Commission, has received a communication from Professor M. B. Waite of Washington accepting an invitation to read a paper on pear blight before the Horticultural Convention at Santa Rosa.

Hop and vineyard growers have been unusually fortunate this year in being able to harvest their crop without the interference of rain. This is the first season for some years that grape men did not have to contend with rain and possibly suffer loss to their crops.

Recent advices from Hood River, Oregon, state that Newtown Pippins are bringing $2.50 per box f. o. b. at that place, and Spitzenbergs are commanding $3.00 per box. This price for Spitzenbergs is an advance of 75 cents per box over last season's prices.

Shippers of Bartlett pears to Europe have not had much besides their labor to pay them for their pains of late. Cables from the other side recorded a big slump in this week's market. About 8000 boxes sold ex. Ss. Campania averaged only 40 cents per box, and about 2000 boxes ex. Ss. Baltic average 42 cents.

Late prices for California grapes in New York have been: Tokays $1.35 to $2.25, average $1.75; uniform crates $1.25 to $1.50, average $1.47; Cornichons $1.40 to $1.70, average $1.65. A car from Holly sold for $1707; two from Lodi for $1664 and $1630, and one from Mayhews for $1683.

There are 25,000 acres of grape vines in Sonoma county, valued at $5,000,000. The annual production of wine in the county is about $15,000,000 gallons which is equivalent to 100,000 tons of grapes, or an average of about 600 gallons of wine to the acre of vines. The annual output of wine in Sonoma county for the last ten years is 7,000,000 gallons.

The Fullerton Walnut Growers' Association has opened its packing-house and moved two cars last week. The association estimates its output for the season at forty cars. The Benchley Fruit Company is moving the crop of the Golden Belt Company and sent out three cars during the week, and will send between twenty-five and thirty cars for the season.

Two cars of oranges were shipped from Rocklin, Placer county, to San Francisco, for Australia, where Placer county oranges are in great demand. Placer county and Rocklin orchards in particular have carried off the palm for the first navel oranges shipped this year, sixteen boxes being shipped on October 14th, although not as well colored as they are now, and were quickly sold for $5 per box. Since October 14th oranges have been steadily going into the San Francisco market from the lower foothills of this section.

AGRICULTURE.

Fall cantaloupes are being shipped daily from Thermal.

The late potato growers in the Pajaro valley would welcome a good rain now as it would save their potatoes from the ravages of worms, which are getting numerous, especially in the heavy black lands.

As a profitable industry when it is properly looked after cantaloupe growing in Tulare county is highly satisfactory. The crop gathered from a 35-acre field aggregated 10 carloads, the receipts for the same netting over $5000.

It is said a Riverside man has originated a melon which is pronounced of superior flavor and which is said to be an uncommonly good keeper. It bears resemblance to the cantaloupe and to the casaba melon. The average weight is about six pounds and in one of that size the space occupied by seeds is only about an inch in diameter. The pulp is solid all the way from the seed space to the rind, and is nearly all edible. The melon is long and egg-shaped and when ripe is liberally striped with yellow.

One of the Cultivator staff writing from San Luis Obispo, says: "Crops around here are good—wheat damaged a little by rust, but not seriously. Barley is good, hay plentiful, beans under cover. Stock and dairy flourishing. Many new settlers coming here and the whole community is prosperous. The factory closed after the most successful run in its history. The first beets were hauled on July 11, the first beets ground on July 17, and the first sugar beets two days later. This season's run is one hundred and one days.

LIVE STOCK.

E. R. Sargent of Cloverdale, Wash., has a spring pullet that was hatched in April that has laid 14 eggs and brought out 11 chickens this fall. How is that for irrigation?

The Board of Supervisors of San Francisco have appropriated $925 for an expert investigation of the city's milk supply by professors of the University of California. The investigation will be independent of the local Board of Health.

The Cloverdale wool sale Tuesday did not realize within two cents that paid at the Ukiah sale last week. At Ukiah the top notch figure was 18 1-2 while Cloverdale paid only 16 1-2. Most of the wool was sold, but the growers feel that a higher figure should have been paid.

San Francisco's dairies are getting into trouble, out of eighty-nine samples of milk analyzed, three contained coal tar dyes, two were adulterated with borax, many showed the presence of poisons and disease germs, chemically known as staphylococci, diplococci and streptococci. Not one of these samples was free from detritus, which is another name for dirt. A few samples were deficient in butter-fat.

MISCELLANEOUS.

During the coming winter and spring many miles of trails will be built in the government forest reserves in California.

The express shipments for last week from Escondido were 900 dozen eggs, 1360 pounds chicken, 555 pounds cream and 520 pounds butter.

The Palo Alto Board of Trade has prepared a "Tree Planting Ordinance" to be presented to the Town Trustees, to the end that a systematic plan of beautifying the town might be followed.

The Farmers' Institute held in Corning last Monday was a gratifying success in every way, and afforded its promoters much satisfaction and pleasure. The three sessions were well attended, over 450 being present at the evening session.

The culture of mushrooms is to be experimented upon by L. C. Gordon, of Boulder Creek, Santa Clara county. He is preparing 4000 square feet of beds of composite made up principally of stable manure. If this experiment proves successful he intends to build proper mushroom cellars and enter into the business extensively.

Elwood Cooper, President of the State Horticultural Commission, has issued a circular invitation to all fruit growers, packers, nurserymen and others interested in horticulture, to attend the thirty-first annual convention of fruit growers, to be held in Santa Rosa Tuesday to Friday, December 5th to 8th, inclusive.

U. S. Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, Oct. 30.

General Summary—Generally clear weather prevailed during the past week, with dense fogs along the central and northern coasts during the night. Light frosts occurred in some sections, but caused no damage. Throughout the interior of the State the conditions were excellent for fruit drying and raisin making and both have been brought to a close. An average crop of raisins of superior quality has been harvested. Wineries continue to run to their full capacity in the San Joaquin valley. The harvest of Tokay grapes in the American river district is completed.

Citrus fruits are making good growth in all sections. Oranges are maturing rapidly in the San Joaquin and Sacramento valleys and a large crop of superior quality will be harvested. The first carload of oranges of the 1905 crop was shipped from Exeter, Tulare county, on the 28th. Shipments will be general within a week. Olive picking has begun and the crop promises to be large one. A large crop of apples of excellent quality is being harvested in Humboldt county. Bean thrashing continues; the crop is large and of good quality. Large shipments of hay continue. Hay baling is completed in all sections and a large crop was harvested. Walnut harvest continues. The yield will generally be much less than was expected, and the crop light.

Dry plowing and seeding are progressing in most sections. Dry feed is getting scarce in some districts. Rain is badly needed in all portions of the State to start the new feed and put the ground in condition for plowing.

* * *

Eureka Summary.—Dense fog along the coast the greater portion of the week; warm and dry in the interior where rain is much needed. Feed short and cattle falling off rapidly. All crops harvested except late potatoes.

* * *

Los Angeles Summary.—Walnut harvest still in progress; crop is fine, but late. Citrus orchards are in fine condition; oranges are splitting some. Peas are being largely sown for cover. Raisins in the southern districts are safely housed. Vegetables are doing well.

C. H. SESSIONS, ASSOCIATE EDITOR

A PROFITABLE DAIRY FARM.

On August 1st Prof. W. J. Spillman, of the United States Department of Agriculture, Washington, D. C., delivered an address before the farmers at Columbia and discussed at length diversified farming, and especially the profits of stock raising and dairying. In this address he stated that possibly the second best dairy farm in the United States was located at Commerce, Ga., and owned by W. L. Williamson of that town. Commerce is on the branch line of the Southern Railway in northeastern Georgia, running from Lula to Athens. The soil there is the typical red clay of northern Georgia, and the land is similar to that which usually sells from $10 to $20 per acre. What Mr. Williamson has done in dairy farming shows what can be done in a section of country where the industry is still almost undeveloped.

The farm contains about 400 acres, but only 135 acres are in cultivation, the balance consisting of 100 acres in Bermuda and 100 acres in woodland pasture (Bermuda and Lespedeza). The crops in cultivation are about fifty acres in peas, and about seventy acres in corn and four acres of alfalfa. The corn is grown for silage and the peas for hay. The corn silage consists of three parts corn and one part sorghum, so planted that when cutting the row there is no necessity of mixing in the cane. The corn is planted in four foot rows, twenty inches in drill. As soon as the corn is cut off for silage the land is sown in rye, and furnishes winter pasturage. The land where the peas are sown is also sown in rye after the peas are taken off. This rye is sown from September 15th to November 15th, and the rye is taken for pasture within six weeks after sowing. In the spring, when the rye is about knee high, it is cut and fed green to the cattle. This cutting and feeding goes on until the rye gets in bloom. Then part of the rye is cut for hay and another portion set apart for seed. Where the rye has been cut to be fed green sorghum is planted for an early feed. Where the rye has been cut for hay, the land is sown in peas, and after the portion that has been set apart for seed rye has been cut, the land is planted in silage corn. In other words, the crop rotation is as follows: Corn followed by rye, rye by cow peas, then rye, then corn and then repeat the rotation of the crop. Occasionally rye is plowed under green, and this is to keep crops growing on the land all the time, both winter and summer.

The farm is located on a rolling and partly hilly plantation. Yet there is no terrace or wash on the place. The soil is plowed deep so as to hold the winter rains, and then the crops are cultivated on a level. From ten to twelve tons of silage are cut per acre. Prof. Spillman says that the average from good farms in Illinois is about seven tons; at least it is stated in a bulletin issued from that State that the average is from five to eight tons. As soon as the silage crops are cut they are carried to the barn, where they are run through a cutting machine which cuts up the corn and cane stalks in small pieces one-half to three-fourth inches in length. There are three silos at the barn, two small ones having a capacity of 100 tons each, and one large one with a capacity of 320 tons. The cost of producing a ton of silage and putting it into the silo is from $1 to $1.25 per ton.

The cattle are also fed cotton seed meal, corn meal and bran, the plan being to feed each cow a mixture consisting of three parts each of these ingredients, giving the cow one pound of this mixture per day for every pound of butter she makes during the week; that is, if the cow makes seven pounds of butter each week, she is fed seven pounds of this mixture each day. If a cow is fed six pounds of this mixture each day she should have twenty-five pounds of silage and eight pounds of dry hay. If alfalfa hay is fed, the grain mixture can be cut in half, or in fact, can be omitted altogether.

At the present time there are on this farm 145 head of cattle, consisting of seventy-five milch cows, mostly Jersey and grades, three Jersey bulls, dry cattle and calves. These cattle are housed in the barn at night and the droppings hauled out in the morning and scattered over the land each day. At the cattle barn three men are regularly employed to clean up the premises, look after the feeding and assist in the milking. The milking is done by these three men and three boys who assist at milking time. The cows are groomed by brushing and rubbing thoroughly. They are then milked and fed. It requires about an hour and a half to milk and thirty minutes to feed. Water is suplied by tank and windmill, and there is a drinking place between every two stalls. All these drinking tubs are on a level and are supplied with water by an automatic arrangement. The products sold consist of butter and sweet milk. About $150 worth of milk is sold in Commerce, which is a town of about 2,500. About eighty pounds of butter are made each day and this is contracted for by an Atlanta firm, and nets Mr. Williamson twenty-five cents per pound. Nearly 25,000 pounds of butter are made from this dairy herd annually, and in addition Mr. Williamson buys milk enough to make 25,000 pounds. From these figures it will be noted that the sale of butter annually aggregates about $12,500, the milk about $1,800, giving a total of $14,300. The gross income from this farm in 1903 was about $5,500, or at the rate of $41 per acre for all the land in cultivation. The net income that year was about $23 per acre. The farming is done much better now, and from figures furnished by Prof. Spillman the indications are that the gross income this year will be from the 135 acres in cultivation, about $67 per acre, or a net income of about $49 per acre. Mr. Williamson pays his butter maker $30 per month, the other helpers around the barn $13 to $15. Sweet milk is sold locally at 15 cents per gallon.

THE MILKING QUALITY.

The fixedness of the amount of fat in a cow's milk makes it necessary to watch the breeding, for by a change of blood we can lower or raise it in one generation very markedly. The slight increase in butter fat, the second year that a cow is in milking, often deceives people into thinking that this is not true, but this rise is due to the superior care and feeding a cow receives in enabling her to reach her limit for the concentrated food gives her all she can assimilate of milk producing food. In the Holstein the change of form is often marked, the heifers sometimes are so coarse and beefy that one is a little ashamed of them, but when they have had their second calves they come to the milk form rapidly and make good cows. Several that were of this type are now in the Advanced Registry with creditable official records.

The milking of cows is of as much importance as the feeding. Where one has a large herd, a prize of a dollar a week to the milkers whose cows do the best, when the milk is on the increase, or whose cows fall off the least, when the milk is decreasing, gives good results. One of our neighbors thought he would try this plan. He also ran a hotel in town, which the home farm supplies with milk. At length, the cook remonstrated with him, as the milk was growing thinner every day. There was no foreman over the milkers, and they found the pump very handy to increase the milk yield.

There is a serious loss in allowing the cows to go dry too soon, and to remain dry for several months. Six weeks is long enough for a cow to be out of milking, and heifers must be milked up to this time if they only give a quart a day, or else each time they freshen they will go dry at the same period. We never believe in

Sharples TUBULAR CREAM SEPARATORS

We want you to know Tubular Cream Separators as they are

Investigate the low can and enclosed gears. Tubulars have neither oil cups, tubes, nor holes—they oil themselves. **They have bowls without complicated inside parts—hold the world's record for clean skimming, durability, capacity, easy turning and easy washing**—save half the work—greatly increase the amount and quality of butter—are wholly unlike all other separators. Write for catalog R-200

THE SHARPLES SEPARATOR CO.,
Toronto, Can. West Chester, Pa. Chicago, Ill.

CLIFFORD'S ANTI LUMP JAW

Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing **"Clifford's Anti Lump Jaw"**—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.

Our **Hog Cholera Remedy is guaranteed to cure**. Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.

Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our **Chicken Cholera and Roup Remedy** will cure all diseases that the feathered fowl is heir to.

CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS

we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.

DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

Riverside Herd of Holsteins
CALIFORNIA'S FINEST

Contains the largest number of Officially Tested, Advanced Registry Cows of any kind in the world. We bank on what they do, not how they look. Not how cheap, but how good. Circulars showing individual records of many of the cows sent on application.

PIERCE LAND AND STOCK CO.

RIVERSIDE RANCH ON ROUGH AND READY ISLAND NEAR STOCKTON 884 James Flood Bldg., San Francisco

When writing advertisers mention Cultivator.

forceful drying off of cows, by giving them alum internally, or by starving them, or by rubbing camphor on the udder; any of these ways of stopping the secretion of milk should be looked on with suspicion. Nature knows best and it is safer to follow her indications. We feed the cows right along; if they go dry before calving we allow them to do so, but without any drop below a gallon of milk at a milking, they are milked regularly without any attempt to dry them off. The idea that milking the cow stunts the calf does not hold good if the cow is fed. Of course, if the cow is starved she will drop a feeble calf. This is not theory, but learned by hard experience and the spoiling of a few cows. Some extra good cows that we sold fell into the hands of a theorist and he forcibly dried off some of them, so that they have not recovered their full milk flow. One cow that at full flow of milk gave 75 pounds has only a record of 50. She has made three pounds of butter a day; now her highest record is only a little over two pounds. Forcible drying off will ruin many Durhams, Ayrshire and Holstein cows, or any cows that are giving a large volume of milk.

* * *

The older dairymen were wise in insisting on stripping the cows. We have had to come to it, as a practical necessity, for it is easier to have one good head milker that by stripping the cows can keep the other men milking clean, for where the stripper comes along any slackness is at once discovered.

The time spent in stripping is fully paid for by the extra fat obtained. As the cows are usually left by the ordinary milker, each cow will strip from three-quarters to a pound of milk. This milk averages 7.5 per cent of fat, so that on a string of thirty cows, there is 15 to 30 pounds of 7.5 per cent milk; this equals a daily loss of 2 to 2¼ pounds of butter fat, worth say twenty cents a pound, or 40 to 45 cents.

The Hegelund method of increasing the milk flow has been tried by the Cornell and Wisconsin stations, and bulletins issued telling the results and making comparisons with the ordinary forms of stripping, without going into the details, that would be hard to describe, it may be briefly said that the Heguland method is a series of manipulations or massage of the udder that can best be studied from the illustrations in the bulletins. The average increase of milk was one pound a day per cow, the average of the fat of the entire milk was 4.29 and this last pound of milk obtained had 10.32 per cent of butter fat. The time required to obtain this last milk was from two to three minutes or twenty cows an hour. So that twenty cows will yield an increase of two pounds of butter fat worth 40 cents. When it came to careful stripping, done with the whole hand and not with the thumb and finger, the results were nearly the same. Either way was well worth practicing, for it not only increases the immediate milk flow, but also makes the period longer, before the natural decrease in the milk flow.

The best cows naturally receive the best care, and most careful milking, and while we can hardly look for many more pounds of butter fat, from the individual cow, it is reason able to hope for more cows with a capacity of twenty-five or thirty pounds of butter a week. The perfecting of the milking machine will be the dairyman's millenium. Yet there will always be physical difficulties to overcome. In my own dairy two heifers may be equally well bred, both have same care; one makes a cow giving three hundred and fifty pounds of butter fat in the year while the other gives five hundred. Now where is the difference? The two principal ones seem to be, first, in the teats; they are either too small, or too large, or too thick at the top, so there is dificulty in milking clean and the cow is never developed to her full capacity. The other cause of failure is nervousness. The fretting, easily annoyed cow is never worth as much as the placid one. Watch them going into the stable. One cow rushes ahead, blunders into the wrong stall, while the heavy producing cow walks in quietly; finding Madame Blunder in her stall, she pauses to see if a man is around to put out the intruder. If she sees no one, she walks into the next vacant stall and goes to eating, while the fussy cow frets because she is being milked out of turn. She is decreasing her milk flow all the while by her own perversity, while old Placid is enjoying her feed and thinking how much time she will have before the milker will say, "Si! Stand over!" which means, stand still to be milked.

* * *

How much there is in this nervousness can be judged by the decrease in milk flow if the herd is startled in any way. We had a heavy wind come up as the cows were going into the barn one evening. A storage shed outside of the cow yard was unroofed and collapsed with a terriffic crash. The morning milk had been forty-five ten-gallon cans; that night there were thirty-four cans, or eleven ten-gallon cans shortage. The milk was not secreted, and was lost, for the next morning there was still twelve gallons short, so the total loss of 122 gallons of milk, all from nervous shock. Now this also shows the mischief an unruly cow may do if in the barn with quiet ones. Milk is not all the value we receive from the dairy herd. In Germany herds of cattle are fattened without other thought of profit than the manure for the vineyards. This manure should pay for the food purchased. We know the heavy crops of grapes we have are due to the heavy fertilization that the vineyards have received in the past years. When our neighbor on a vineyard less than ours told us he had expended $1200 for bone and blood meal, we thought of how many cows this would have fed. So the fertilizer money will pay the feed bill, and with a little experience in feeding, the skim milk should make the returns from the pigs enough to meet the cost of milking. This leaves the butter free of expense, and selling only fat, there is no loss of the fertility of the soil.

* * *

The wonderful success of Mr. Dietrich of Flourtown, Penn., is told in this year's Department of Agriculture Year Book, and should be carefully studied. He has thirty head of stock on 13 acres of land, 17 milking cows 8 heifers of all ages, from springers to calves, three bulls and two horses. All the hay and fodder used is raised on the farm and 3300 pounds of hay were sold. Professor Stillman particularly speaks of the herd as being well kept and in good order. In 1881 this farm was so run down that it could not furnish roughage enough to feed two cows and a horse. Dr. Dietrich has neither purchased manure nor commercial fertilizers. The cows are kept in the barn and the crops of feed cut and hauled to them. Two silos of sixty tons each are filled with corn grown on the farm. The stables have cement floors and all manure is saved and hauled out daily and spread on the land. Dr. Dietrich is to write about the soiling crops he grows in the next Government Year Book. About $400 is spent each year for commercial feeds for the stock. The corn grown for silage on this highly fertilized land produced thirty tons to the acre. So Dr. A. T. Neal of the Delaware station estimated. Now why has this little Flourtown farm and its owner been so successful? Because Rev. Mr. Dietrich read everything he could find, that was on this line of work, and he applied to the farm everything that appealed to his common sense as reasonable. The soil of this farm by recent analysis contained 20,000,000 of bacteria to 1-30 of a cubic inch of soil.

It has been suggested that some time in the future we may sell and buy our farm lands by the bacterial count. Dairymen have been so unmercifully used by the schemers on these bacterial counts that they certainly would not welcome it in any guise. It is a pleasure, however, to see in Mr. Dietrich's success the triumph of book farming, to see recognized the work of the scientific corps of the universities and experiment stations, that it is practical and not all theory when applied to the soil. The return to the soil is a hopeful sign of the times, for it indicates that at last educated people are finding pleasure in doing as well as in thinking, "for he that can work is born king of something."—Mrs. M. E. Sherman.

AN ARKANSAS TRIBUTE TO THE MULE.

The mule will keep up his end of the doubletree on one-fourth less grain than the horse, because he masticates his food much better.

He can stand much heat. If given his natural gait he will do a good day's work the hottest day we ever have.

He observes the rules of health better than most men by not overloading his stomach with food and drink—especially while too warm is he abstemious.

If the hired man neglects to close the corn crib door the mule is the first one to notice it. He pokes his head inside, picks off what shucks he can find and nibbles at a few ears of corn. He won't lie down nor take a wink of sleep, but stays right there and guards that crib all night, knowing if the horse be allowed the chance he will eat enough to kill his fool self.

He is seldom if ever sick, but should he become so, turn him out at once on the prairie and in the brush and he will prescribe for his own case.

He will save you the expense of a currycomb, the time spent in using it, and be very much obliged to you besides if you will just let him roll all he wants to after the day's work is done.

If you do not try to break his neck by high checking, he will sometimes walk a little sidewise or carry his head low or in some position to favor a coming collar sore. It is a positive fact that an Arkansawyer's mule team will will go through a four month's hay harvest pulling a six-foot

DEVON CATTLE
The Devons are hardy, easily kept and will fatten at any age. Docile, excellent milk and butter producers, and an ideal general purpose cattle. Stock for sale.
L. V. McWhorter & Sons - North Yakima, Washington

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

For Catarrhal Fever

Pink Eye, Distemper and all diseases Nose and Throat

Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1 00 per box, ½ doz. $5.00. Sold by druggists, or sent express paid
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal.

Registered Shorthorns
—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal

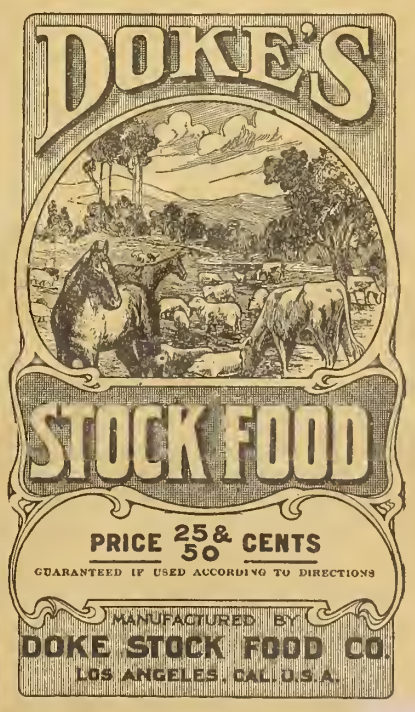
Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory
322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.



mower with no reins to the bridle and just the top hame string for a collar pad without a pimple. All this side by side with the Illinois man's horses checked up until they have the neckache besides a sore on top of their necks as raw and red as any slice of old horse bologna you ever ate at a public sale free lunch.

We never hear of a mule trying to commit suicide by running into an old well or barbed wire fence. Give him a little time to investigate the mudhole that you are driving through, or over the bridge with a weak plank, and he will not finish by breaking the plank or a leg, either. If he runs off, he does not do it for meanness, just to wake up and keep from going to sleep. He never runs far, scarcely ever breaks a thing, and never gets scared about it.

There are two ways of working a mule, with fifty cents expense, so that he never will run away. A mule well broke to work double can be worked with perfect safety to any tool or rig.

Don't play with and tease the young mule, but give him a kind handstroke occasionally. He will be just what you make him.

If the balky driver overloads the mule, he will try several times to pull the load, but when he finds out there is no use wasting strength, he quits. However, he won't rear up in the air, paw the earth, or hang his head ove. his mate's neck, but simply stands still till the load is lightened.—then he starts both load and old Norman.

When the heavy hauling and all the summer work is done, you can turn the mule out to rustle through the winter, if your conscience will let you. On the other hand, the old mule will pull through the winter, scarcely losing a pound, but if the old Norman should, his hip bones would make a good hatrack. Such a life many a mule has led for more than forty years. For these reasons I believe the mule is the best animal power we can have on the farm.—C. Foster, Stuttgart, Arkansas.

BUTTER PACKAGE MARKING.

The arrest last week of one of the leading grocers in the City of Los Angeles for violation of the above entitled statute, passed by the last legislature and now a law in full force, marks the opening of a most vigorous campaign by the State Dairy Bureau.

It has been the custom of the packers, it appears, to fail to correctly mark their packages, some being an ounce short in weight and others so marked as to confuse the buyer as to the exact amount he is paying for.

Complaint was made to the State Dairy Bureau, and parties who were known to be violating the law were informed that they must comply with the State regulation for proper marking butter. Declining to do this, arrest has been made of one offender and others are to follow.

To the complaint of the inspection, the defendant has entered a general demurrer, setting up in his answer the unconstitutionality of the law. It is well to remember that the State Dairy Bureau is in control of this matter and from now on will campaign the State to arrest every violator of the butter marking law. The law appeared March 20, 1905, and the three most essential provisions to know are the following:

Section 1. No person or persons, firms or corporations by themselves or their agents or employes, shall sell, manufacture or prepare for sale, offer for sale or expose for sale, or have in his or their possession for sale, or consign, ship or present to any dealer, any butter in packages containing less than six pounds and more than one-half pound, unless the exact weight of such butter contained in such package or packages, rolls, prints, or other form of package, expressed in the number of pounds or ounces or in both pounds and ounces, shall be printed or durably and legibly marked upon the wrapper or other container of such butter in letters or figures, or in both letters and figures, not less than one-fourth inch high and upon the same side or face of such package upon which the producer's or seller's name and address appears, and if such name and address does not appear, the weight alone shall be legibly and durably placed upon such package in letters or figures not less than one-fourth of an inch high.

Section 2. Whoever shall violate any of the provisions or sections of this act shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than twenty dollars nor more than one hundred dollars, or by imprisonment in the county jail for not less than ten days nor more than fifty days, or both such fine and imprisonment, at the discretion of the court.

Section 3. It shall be the duty of the State Dairy Bureau, now existing under the laws of this State, to enforce the provisions of this act and to cause the prosecution of any person known to be guilty, or that it has reason to believe to be guilty, of violating any of the provisions of this act. It shall be the duty of the district attorney of each and every county in this State, upon application from the State Dairy Bureau, to attend to the prosecution in the name of the people of any action brought for the violation of the provisions of this act within his district. One half of all fines collected for the violation of any of the provisions of this act shall be paid to the county in which the fine is imposed. The other one half shall be paid to the State Dairy Bureau and by said bureau to the State treasurer and the same shall become a part of the appropriation made by law for the use of the State Dairy Bureau.

Section 4. All acts and parts of acts inconsistent with this act are hereby repealed.

Section 5. This act shall take effect sixty days after its passage.

The State Dairy Bureau is to be commended on its determination to enforce this law as it is also to be congratulated that it is hereafter to give special attention to cleanliness of dairies throughout the State.

LUMP JAW.

From interrogatories sent the Cultivator it appears that Lump Jaw is attacking the cattle in some sections of this State. It usually shows itself in the face, and needs quick attention to arrest it. The disease is infectious, and while not easily communicated from one animal to another, may yet be transmitted if a diseased animal drops any of the bacteria from the sore—if it discharges—on hay which other cattle pick up. The vegetable fibers of barley which penetrate the gums of cattle will bring on this disease.

When a lump appears on the jaw of the cow or steer it should be treated as Dr. Oliver stated last week, the animal should be separated from the balance of the herd and if the disease cannot be arrested the animal ought forthwith to be killed.

When a cow is giving a pound of butter a day, says the Farm and World, she is subjecting her nervous system to a severe strain, for she gives besides that an equal portion of almost solid protein or nitrogen in the form of casein, and she has to extract it with a very strong exercise of nervous force.

We are told that the man who can make two blades of grass grow where only one grew before is a public benefactor. How about the man that can cause his cows to make two pounds of butter where they only made one before.

When breeding sheep see that they are vigorous and healthy, so that the offspring may be sound and robust.

BY DR. W. J. OLIVER,
318 East Second St., Los Angele

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

INCURABLE.

Editor Cultivator: Will the Cultivator tell me how to straighten the ankle of my mare She hurt her knee last winter and took cold in it, since it has been double size and nearly stiff, the big cord is drawn and her foot is drawn back. It is the fore knee. If you can tell what will do it good, or straighten it, I shall be greatly obliged. A. M. H.—Yuma, Arizona.

Your case is incurable. The only treatment which would benefit your horse would be a surgical operation called tenotomy, and that would require the services of a competent veterinary surgeon.

STOMACH WORMS.

Editor Cultivator: I have a horse that has the large intestinal worms. What can I do to rid him of them?—J. H. B., Covina, Cal.

The worms you refer to are stomach worms. Treatment—Sulphate of iron, pulverized, 4 ounces; Areca nut. 3 ounces; Arsenic, 1 ounce. Mix. Dose—Heaping teaspoonful night and morning in a little damp feed.

LUMP JAW.

Editor Cultivator: About five months ago I noticed a bunch on the jaw of a heifer I have. The lump seems fast to the bone and the hide fast to the bunch. I treated it and soon after it discharged considerable. This sore never healed, but there is a foreign growth that looks like proud flesh, or of a dark bluish red color, and bleeds almost to the touch. I have put on clear carbolic acid, also burnt alum, but to no effect. There is no discharge from the sore and I can't see that the bunch is enlarging any save only, that growth from the center of it grows larger.—C. E. S., Healdsburg.

The bunch you refer to is lump jaw and is almost impossible to cure when it has reached that stage. If treatment is attempted the bunch should be dissected out and thoroughly cauterized and a little powdered bichloride of mercury appled to the wound. After 3 or 4 days the scab may be removed and another application made.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***If not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

leads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business Abundant green feed every day in the year will be of great advantage in the best development of our young stock.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD

JEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

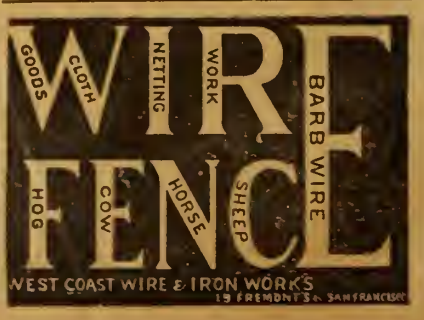
La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want.

J. A. CAMPBELL, Buena Park, Cal.



MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

BIDDY AND THE INCUBATOR.

Among the letters awaiting answers during my absence from home is the following, which gives such a clear description that I will print every word, for nearly all of us have been through the same trouble and can sympathize with the writer, Mrs. A. A. V., Los Gatos:

We have been reading the Cultivator for two years, but this is the first "help wanted" we have asked you to insert.

We are hatching with incubator and can get only 60 per cent to hatch, while the makers of the machine claim they hatch 90 per cent. And we have almost lived with the incubator to get it to do better, for Biddy brings 15 chicks from 17 eggs (average) from same stock. After they are out of the shell we have no further trouble except with one hatch. We bought eight dozen pure-bred B. Leghorn eggs last of May. Hatched 45 chicks. Nice looking ones, seemingly healthy in every way. Biddy hatched 16 at same time, our own stock, which we took from her and put with incubator hatched chicks. All did nicely for a few days, when a Brown Leghorn looked droopy. In a couple of hours I revisited to find its wings hanging, it standing asleep, which it continued to do until it died. And so they went until from the 45 chicks we now have five, and of the 16 W. Leghorn (Biddy's) we still have 16. In the same pen, eating of same food, in same troughs, with same care in every way. Positively no lice. The only symptoms we could see were drooping and sleeping. Some ate and some refused to eat. Some tried to eat, but seemed from weakness or something else not to be able to grasp the food. Some died quickly and some lingered until upon lifting one it seemed like only so many feathers. The first one died when about eight days old. The last one died about three weeks ago. The five remaining are nice ones (the two little roosters crowing). We thought "in bred" but breeder says no.. We could find nothing in dissecting.

What was the trouble, and what the cure? If contagious, why did not W. Leghorns have it?

We have five pullets and one cockerel of pure bred Plymouth Rock (White) from one hatch. Could I mate them together (brother and sisters) or would that be in-breeding and poor results? Their father and mother were no relation.

What was the trouble with pullet. She was a beautiful Plymouth Rock, five months old. One day at feeding I saw her pick up a few grains of wheat, then stop eating and raise her head high, twitching it in each direction as she did so; then eat again and raise her head, and continued so. She seemed not the least sick. The next morning when eating she did the same. We caught her; she was nice and fat, but her crop seemed to be almost empty, but puffed with gas. Put her head down and milk, water, etc., gushed out. Separated her from rest, gave a dose of salts; also fed her bread soaked with milk. She drank a great deal, but would not eat. After a week's treatment she seemed no better (and not much worse); no other symptoms than puffed up crop and lifting her head, and water (it was thicker than water) gushing out of her mouth, a very foul odor. I had her killed. Bled freely. The only thing found that looked unnatural was that the gizzard contained so much bright yellow fluid with plenty of grit. Was there a cure for her? If so, what? We used the hatchet as an act of mercy. We like chicken raising, but find no pleasure in chicken doctoring. But we keep things nice and clean and care for them and do not have much doctoring to do.

Answer.—It really is discouraging to have an old hen succeed where I fail, and I worked hard to discover the reason for it. I do not know what incubator Mrs. V. is using, so cannot lay my finger on the special defects of any make. Her letter indicates that it is more in the hatching than in the bringing up of the chicks that the difficulty lies, as those hatched by Biddy have all grown and are strong and vigorous.

What is the reason that Biddy hatched better than the incubator? There are quite a number of reasons for this, and by answering as fully as I can I may have to divide this article in two chapters.

The first requisite for a good hatch is good fresh eggs. Biddy's eggs were from Mrs. V.'s own yard and the hatch showed they were fresh. The vigor of the chicks indicates they inherited good constitutions from well cared for healthy parents. First, then, the eggs must be fresh; not over two weeks old, from vigorous, well-fed and properly mated parents. Well fed? What does the feeding do? Much, for the nourishment of the embryo in the shell depends on the food which went into the making of the egg, and especially the green food. When I first came to California I did not realize how little green feed there is on almost any range. The hens had eaten up the green barley and the yolks of the eggs were, I found, very pale, and the fertility low. A farmer living near explained to me that it was the lack of green feed. I appealed to friends who had lawns, and I bought alfalfa, choosing the bales that were full of leaves. I cut the alfalfa in my clover cutter and soaked it, and in about three days the eggs were the proper color and the fertility had greatly improved. Animal food at hatching time is as much needed as green food. We must as far as possible follow nature in this and give the fowls the food they would have if wild, at the natural breeding time—that is, in the springtime. Properly mated fowls, not too much in-bred, but above all, have the male vigorous. Personally I do not approve of constantly changing the males for many reasons. It keeps a spirit of unrest among the hens. I prefer mating a smaller number of hens, from eight to ten of the American breeds to one male, or from twelve to fifteen of the Mediterranean breeds, and not changing the males, but if, as I occasionally find, one hen

A BARGAIN!

Pick of 50 WHITE ROCK HENS, fancy breeding stock from leading strains. Good color, shape and weight. Free from brass. Bred for heavy egg production and some laying now. Not one is worth less than $2, a number would be cheap at $5 00 each. Am in a hurry to move them, so TAKE YOUR CHOICE AT $2 00 EACH.

C. D. YOUNGKEN,
Tel. Sunset East 767 5520 Hill Crest Drive, Los Angeles

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR

Swift & Co. Granulated Beef Scraps

ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.

Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food

ALL UP-TO-DATE POULTRY SUPPLIES

S. H. Church - 505 S. Main St. - Los Angeles, Cal.

THE BUSY HENS

are the paying hens. It is not so much a matter of breed as condition. You can keep your fowls healthy, induce industry, cure their diseases and promote growth and egg production by the regular use of

Prussian Poultry Food

NESTS NOW FILLED WITH EGGS.

Last year my egg crop was a failure, though I have some good breeds and give them plenty of grain, etc. In April last, on the advice of my brother-in-law in Wisconsin, I began feeding Prussian Poultry Food, and I never imagined the results. The nests have been full of eggs every day. I am still feeding it and never expect to quit. I bought a flock of common dung hills, scrubs, etc., at a sale in June and gave them the food and now they lay about as well as thoroughbreds.—G. W. Arbogast, Fisher's Grove, Iowa.

A GREAT EGG PRODUCER.

Prussian Poultry Food cured my flock of Roup all sound and well in ten days time. For keeping poultry in condition, and especially as an egg producer, it stands without an equal. I cheerfully recommend it to all poultrymen to give it a trial and become convinced. Feed as directed and you will make no mistake.—B. H. Payne, Palmesville, Ohio.

Pkgs. 25c and 50c; Pails, 25 lbs. $3.50.

For Lice, Mites and vermin use **Prussian Lice Killer,** (liquid) 50c and $1.00, or Prussian Lice Powder, 25c & 50c.

"Poultry Profits," 36 pages of advice for care and feeding of poultry Free if you write us what stock you own and where you saw this offer.

Prussian Remedy Co., Dept. B **St. Paul, Minn.**

has always infertile eggs, I mate her to another and younger spouse. The male is half the pen, and he must be vigorous and healthy and not exhausted by having too many mates. Weigh him, or simply "heft" him, lift him in your hands off the perch, and see if he is getting too thin, and feed him extra, by himself away from the hens. I had one prize winner, an especially fine bird, and to my surprise I found when I went to powder him and his harem at night, as I usually did at breeding time, that he was getting too light. After that I fed all the males extra from the pail or my hand at least once a day. That special male was very gallant; he would call up his wives and feed them and they selfishly ate his share, or at any rate all the choice morsels, the meat especially, and he, from whom the germ of the chick was to come was underfed and in a short time would have fathered weak and inferior chicks. This is another item in favor of dry feeding in hoppers. The vigor of the male gives vigor to the chicks and depends largely upon a sufficient supply of the proper food. I will finish this subject next week and tell of the other reasons why Biddy sometimes beats the incubator.

In reply to the other questions in Mrs. V.'s letter, secondly. It is usually considered better not to mate brother and sisters, but this mating is used always in making any new breed, therefore if your fowls are vigorous you can do it safely. In close-mating or in-breeding, always remember that it intensifies the qualities of a fowl or animal—the good qualities and the bad qualities. If you have a hen that is an exceedingly good layer, mate her to one of her own sons that is more of her own style than like his father, and you will probably have a large per cent of her daughters as good layers as she. The successful mating of fowls (and animals) is an interesting study.

Third. Your pullet had a bad case of what is called sour-crop. It really is indigestion, and in yards as carefully kept as yours is very rare. It comes sometimes from too great a use of stimulants or so-called egg foods, or red pepper.

* * *

EDITOR'S QUESTION BOX.

Brown Leghorns.—(Mrs. J. W. B.) Will you kindly tell me where I can get some prize stock in young B. Leghorns about two years old, for breeding purposes (males)? I am a subscriber to the Cultivator and enjoying your articles. Just now there is no such stock advertised in the Cultivator, and as I am a beginner in the business I am at a loss to know where to send.

I am experimenting with the dry feed method and thus far like it very much. It is labor saving and my chickens are in excellent condition.

Answer.—I am glad to hear that you are as a beginner trying the dry feed method, because it is the most satisfactory of all methods, but be sure to give the fowls plenty of grit and clean water.

Will some of the owners of prize stock, B. Leghorns, please send address for this subscriber, or advertise?

* * *

Feeding.—(J. N. H.) Please tell me through the columns of your valuable paper what the trouble is with my chickens and what to do for them. I have nearly 60 White Leghorn hens and I am getting from three to eight eggs each day. I feed them in the morning 1½ quarts wheat and a mash composed of three quarts of Coulson's egg food, one quart of calfalfa meal and one tablespoonful of powdered charcoal. While moulting I substituted the "moulting food instead of the egg food. For several months they have not seemed to like the mash, always eating the wheat first. If I leave out the calfalfa meal and charcoal the result is just the same. If I give a larger quantity of the mash and omit the wheat they will stand around, many of them not touching it at all, so that a portion of it remains in the troughs all day.

They have no green food except the calfalfa meal. At night I give them three quarts of wheat. They have fresh water constantly before them, also plenty of grit, bone and shell They have an abundance of shade, also free range of two-thirds of an acre of orange trees. The combs of a part of them are apparently lifeless and nearly colorless, instead of a deep colored red, as was the case a few months ago. They are free from lice and mites, and have good tent houses with ventilation at the bottom. I notice among the droppings that a small portion of them is a light yellow color and of a frothy appearance. In all other respects they appear perfectly healthy and are in good flesh.

Answer.—Your hens evidently do not like the mash you are giving them and a change will not only be beneficial but is absolutely necessary, or you will have sick fowls, in fact they are sick now.

First of all, they must have plenty of sharp grit, and clean water, besides shell, either clam or oyster, or lime of some sort to make the shell of the egg.

Then remember the rule that for every pound of hen they should have one ounce of dry grain. You are not feeding enough but you say they leave the mash; it simply shows that they do not like it. There is some ingredient in it which they dislike and for a time at least I would entirely change it. Will you try the following very simple ration, either dry or wet? I much prefer it dry for your hens. One part dry calfalfa meal, three parts bran, two parts corn meal and one part beef scraps and a little charcoal, unless you give them charcoal with the grit. You can still continue the wheat. If you have no "hopper" you can feed the dry mixture in a good deep bucket hung against a post so they will not tip it over or waste it. Feed them all they can eat, leaving it before them all day, and give them plenty of clean water, and if you have it, plenty of skim milk. I think you will find this change of diet for a month or two will be very good and that in two weeks you will have eggs.

* * *

Turkeys.—(A. L.) My turkeys have commenced to lay. Would you advise me to set the eggs at this time of the year? I tried it last winter and kept them up stairs in the barn, and I lost all but three out of 65 or 70 birds. They did well until I took them down from the barn. How should I care for them in the winter season? What diet should I give them?

Answer.—As you had such bad luck with your turkeys last winter I would advise you not to set any eggs at this

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

I am offering some exceptional yearling breeding stock at a reduction for the next 30 days to make room for growing stock Prices on application.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

LEE'S EGG MAKER

25 lb. Pail, $2.00 WILL 2½ lb. Package, 25c

MAKE EGGS

Henry Albers Co., 315 So. Main St, Los Angeles, Cal.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

Armour's Improved Beef Scraps

Armour's Improved Beef Scraps contain no bone, hair, wool or tankage and are a rich brown color

Henry Albers LOS 315 South Main St. ANGELES

Baby Chicks

Hatched in **Dean's Pacific** Incubator are strong and thrifty. Send for "Facts from Experience," also catalog.

Dean's Place, 2509 Central Ave., Los Angeles

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUSBARD, P. O. BOX 422, FERNANDO, CAL.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

season. They require the same care and the same diet in the winter as in the summer, and it is very difficult to get the same conditions in winter. I would advise your waiting till spring-time before hatching, as you do not have the proper accommodations.

* * *

Rhode Island Reds.—(Mrs. F. A. R.) I am enclosing a postal for the name of some reliable breeder of Rhode Island Reds, also White Wyandottes. I wish to secure a setting of eggs from them.

Will you please tell me through the Cultivator columns whether Rhode Island Reds can be successfully raised in Southern California. I want them for broilers. Also what breed you prefer for that purpose? When chickens have plenty of grit is it necessary to supply oyster shell too? Please tell me how to combine the following foods to make a balanced ration for twelve hens: Corn, barley, bran, meat meal and wheat. I am using a hopper to feed the dry mash. Should barley be boiled before feeding?

Your column is such a help to me that I want to thank you for the many good suggestions it always contains.

Answer.—You will find amongst our advertisers good White Wyandottes and Rhode Island Reds. R. I. R. can be successfully grown in California and are excellent birds. The White Wyandottes are considered the best of all breeds for broilers as they are when young a plumper and prettier looking broiler and develop a few days earlier than other kinds. They do very well in California.

Of the feeds you name, corn, barley, bran, wheat and meat meal, you would find one part of each of the grains to half a part of beef scraps or meat meal very good, and in winter, or when there are but few insects and you want eggs, use instead of half a part of beef scraps one whole part. The corn should be cracked and the barley rolled. You can occasionally for a change give a little boiled or scalded barley, but do not put it in the hopper, because it will sour very quickly and make the fowls sick it kept a few days. I find that mixing the dry grains in the hopper with one part of dry calfalfa meal is excellent, and I feed the beef scraps in a separate smaller hopper or box and let the fowls help themselves.

LATE CHICKS—THEIR CARE.

Writing in the Homestead about late chicks and their care, M. M. Johnson says some good and suggestive things about climatic conditions which apply as well to California as they do to the Middle West country. The Cultivator is getting lots of letters from disappointed poultry persons who complain about the very things Mr. Johnson writes of. Our notion, apart from Mrs. Basley, or any other poultry expert is, that much of our trouble with our chickens comes from our own carelessness in tending them. But then, read what this expert says:

"I do not know of anything more seasonable to write about than the fall care of the new crop of chicks. I, as well as many others, can tell how it all happened after it is over. Let us get at it in advance. Let me say right here, though, that I am conscious of being the off-ox on many poultry matters, but it is possible that a great variety of ideas might lead to the right conclusions.

One of the every-year falling-down places is in transferring the summer broods to winter quarters. Usually we have a nice lot of pullets roosting around here and there, and our first inclination, when the first frost comes, is to gather them up and put them away snugly in their winter quarters. It's a mistake.

Let me say here and now that fowls are naturally an out-door creature. Their feathers are for no other purpose than to protect them against cold. They do not suffer from the effects of cold as quickly as we might think. Don't be in a hurry to box them up. If they have been roosting in the apple and cherry trees I venture to say that they are healthy and active, and a little cool weather only serves to fit them for real winter. After winter has come, and they occupy their winter quarters, it is better to chill them a little than to overheat them.

Many times we gather them up too early and close them up at night. Then we turn them out in the cool mornings and put them through a procedure that leads to sniffles, roup and other winter ailments, and to some extent they are invalids instead of the cackling active layers we had figured on, and there is a further possibility that roup will develop until when spring does arrive the flock as good as none.

Let me here mention the cholera, that is a tame thing as compared with roup in its rotten form. It is a first cousin to consumption with people. Both are contracted or brought on from the same causes, and both are hereditary or contagious. Yes, yes, there are cures for either, but I am here to say that money-making poultry is well poultry, and I have your "aye, aye," right now.

While there are, no doubt, reliable cures for colds, if the cause is removed, genuine roup is something to be shunned by all poultrymen, but I am straying from the chick question. Let us talk more to the point.

The usual course of things is to gather up the whole business at first frost and box them up. Pile a hundred in room enough for fifty; then we hold onto the scrubs and all till breeding time and sell the grown-up cockerels at the same or less price than they would have brought in the fall. Why not make a regular clean-up in the fall and give the good ones a better show for winter?

Now, back to the house question again. Do not close up the house too tightly until real cold weather. Don't be afraid of some fresh air. Fresh air never made consumptives. Do not curtail the amount of air; don't get the idea that air was intended to be closed out, and don't go crank on somebody's or your own ventilation plans on the hens that would kill yourself off. Ventilation is a simple thing instead of a long-headed inventive one. It is drafts of air that do the mischief. A little dampness and a little bit of draft will raise Ned every time. It is very seldom that chicks or fowls contract colds out of doors, or in an open shed that has three tight sides, and a tight roof. In either instance, the little piercing draft is obliterated.

In all my recollections I do not remember of ever seeing fowls contract a cold in a good shed, and never out of doors, unless they have been turned out of a warm place or subjected to a sudden change from wet to extreme cold and a high wind. All in all, about the same things that affect poultry affect people, or clear down the line among live stock.

Winter eggs are desirable, but my experience is that those secured through extreme methods in feeding or housing too warm are paid for dearly in some other way. I would rather get along with half the eggs if I could make sure of bringing the pullets out early in the spring in prime condition. It is not so much a question of a little cold weather as it is snow or dampness. Wet feet seem to have a direct connection with the laying organs."

OUR ENORMOUS EGG CROP.

The egg and poultry earnings of the United States for one recent year amounted to $280,000,000. Such an amount is sufficiently amazing as it stands, but you don't get its full significance until you study the relative trial. We find for instance, that the total value of gold, silver and wool and sheep produced in America during the year in question was $272,434,315. The sugar production of the country the same year was but $20,000,000. That part of the wheat crop used at home, which many consider the most valuable of our agricultural products was worth $229,000,000. The great American hog, as consumed at home and abroad brought $136,529,035. The value of the oat crop was $78,984,900. Potatoes grown in the United States were valued at nearly as large a sum as were the oats. The product of tobacco plantations was estimated to be worth $35,579,225. Cotton, the dethroned king of staples, could show only $259,161,640, as against the magnificient earnings of its feathered rival. Crops of flax, timothy, clover, millet and cane seeds, broom corn, castor beans, hay, straw and so forth, couldn't all be sold to come within a measurable distance of many millions of the poultry earnings.—Western Farmer and Dairyman.

THE INCUBATED CHICK.

(A Psychologic Tragedy.)

I'm not a little orphan, sir,
But I am just as sad,
A-peakin' and a-pinin' for
The love I never had—
One touch of human sympathy
Would melt my poultry natur',
But I refrain from hope so vain,
For ma's an incubator.

When first I burst my parent shell,
How hideous the dream—
No rich cluck, cluck fond love to tell:
No sound, alas, but—steam!
I felt in vain for sheltering wings
Within that broilin' crater;
And then, in sooth, the horrid truth—
Ma was an incubator!

I see that tin thing over there
And weep beside my brother—
"Ah, hideous lie—how much I try
I cannot call it mother!"
You say I'm false, unnatural,
Cruel as an alligator!
One can't remain quite normal when
His ma's an incubator.

Sometimes at rosy-fingered dawn
I stand in pensive mood
As now and then some kind, sweet hen
Walks proudly with her brood—
Dear influences of the home!
And I, a woman-hater,
Stand all apart with withered heart:
For ma's an incubator.

—Wallace Irwin.

THE MORNING FEED.

Fowls which are overfed in the morning are sluggish all day and become lazy and out of condition. It is exercise of muscle that creates proper functional tone. If productiveness is expected natural laws must be observed. Feed moderately in the morning, especially when the flock is small and kept in limited range.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.00 and $2.50 per 14 Tel. Sunset East 390. Home 31048. 132 Ave 32, Los Angeles, Cal.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

Ranch-Raised, Thoroughbred Poultry For Sale
25 White Leghorn Hens, 18 months old and through moulting; Lytle strain, Los Angeles.
5 White Leghorn Hens 18 months old, from Howard's prize winning strain. 2 Roosters, Howard's strain, and beauties.
14 laying Brown Leghorn Hens and 1 Rooster, Williams Bros. strain, Fruitvale, Cal
For further particulars call on or address
L. S. FLETCHER, ANAHEIM, CAL.

Br eding Cockerels
WHITE HORN BLACK MINORCA
One hundred. Good Stock. A few pens of choice stock for sale. Write for prices
Avenue Poultry

S.C. RHODE ISLAND REDS, WHITE ROCKS, BUFF and BROWN LEGHORNS
High grade young stock for sale. Closing out our Brown Leghorns at bargain prices. No Sunday business.
LAKE AVENUE POULTRY YARDS
757 North Lake Avenue - Pasadena

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the Last Los Angeles Show Our Birds Won Twelve Prizes.
Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks
Duck Eggs, $1.00 per 13, $3 00 per 50, $5.00 per 100. Ducklings 10 days, old, 25c each. Ready now.

SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

Mt. Whitney Poultry Yards
For Sale. Standard Bred Buff Orpington Cockerels, and Eggs for Hatching after December 1st.
C. Roth - - Clovis, Cal.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

General Agricultural Notes

A FORMER CALIFORNIAN AND HIS FLORIDA RANCH.

To the Cultivator: I was much interested in what Prof. Cook had to say in a back number of the Cultivator, as to the depredations wrought by the linnets. As usual I was happy to agree with his judgment that it is better to spare the birds than to kill them. This summer and fall I have had a demonstration of the priceless value of birds to hold our insect enemies in check. I had a fine crop of velvet beans and cow peas, but at their blossom time they were infected with the boll worm, or corn worm, which riddled the leaves to skeletons. When the crop seemed lost, along came a flock of bob-o-links, two or three hundred in number, and they cleaned up the worms of that generation to perfection. But the moths (Heliothis Armiger) were busy depositing eggs. The bob-o-links stayed three weeks and would have stayed longer but for the boys with guns. By the time the bob-o-links left, there was a new and very active brood of worms. Then came a large flock of Boat-tailed Grackles (Ruiscalus major) and these took up the good work, the worms were destroyed and the vines put on new leaves. So the crops were saved. In this climate, insects seem never to lose their activities. Fortunately we have birds that are perennial inhabitants of our fields and groves. Among the most valuable are the mocking birds, meadow larks, loggerhead shrikes, doves and sparrow, or "Kelly" hawks, the last are death to grasshoppers.

A valuable assistance to the work of the birds is the feeding habits of the skunk which is very fond of grubs and has the faculty of finding them. I have found numerous cone-shaped holes on my place which are signs of where a skunk has dug for grubs. And yet short-sighted people, or such as are ignorant of the animal, say, "kill him." As with birds of every kind, hawks and owls, included, I will not permit one of these animals to be killed on my place. Men will learn some day that animal life is here for some good and beneficent purpose and that El Senor did not make any mistake in having them here.

* * *

Florida oranges are being shipped by the car load—some twenty-five cars a day going north from the west and southwest coast alone.

What earthly use anyone can find for such green, sour stuff, is more than I can imagine, unless it is to be used in the place of lemons. They haven't the merit of green apples, for they can be cooked and made palatable with spices. Grape fruit, too, has been going north for a month. Hereabouts our fruit has only the slightest tinge of yellow. Let California possess her soul in patience and hold her oranges until they are worth the name.

* * *

The weather has a decided vigor in it this morning, 50 degrees at 5 o'clock and this reminds me of a car load of "Salamanders" which arrived this week to be used in the fine groves of John B Stetson, of Philadelphia, when the freezes sweep down on us from the frigid northwest. These salamanders are very simple and effective heaters, or furnaces, for keeping the temperature among the orange trees above the freezing point. These heaters are cylinders of heavy sheet iron 19x24 inches, and are placed over a cast iron grate which has a projecting lip all the way around on which the cylinder rests. This grate in turn is placed on bricks two at each corner of a triangle, thus raising the grate some eight inches from the ground, which admits of a free draught of air and a space for the ashes. The fuel used is coke. The salamanders are charged with kindlings of fat pine and a layer of wood over which is placed the coke.

The fuel after being placed in the cylinder is protected by a piece of sheet iron placed on the cylinder like a stove lid, to keep the rain from wetting the kindling. The cylinder has a flap or awning on its lower end made by two cuts about five inches apart and running up the cylinder about five or six inches. This permits the cut portion to be turned up and out so that rain cannot wet the fuel. These salamanders are not an experiment. They have been used here with great success.—C. J. K. Jones. Stetson, Florida.

Lands that have been pastured with sheep grow to be very rich in nitrogen. It is claimed by English farmers that 100 sheep pastured for fifteen days on an acre of land will manure it sufficiently to give a four-year rotation of crops.

If you have the "don't like to milk" feeling, don't go into the dairy business.

GO TO GARDENA.

Next to the natural resources of Gardena we know that it is proper to give as one of the most dominant factors in its growth, the energy of Mr. W. M. Gray, the propagator of the famous Gray's Gardena Dewberry, and the originator of "Go to Gardena," which has been his slogan and which has set many people to thinking and caused them to say "All right, lets go." Mr. Gray has resided in Gardena for many years and for a long time put in much hard work on his little ranch a short distance northwest of the post office. He produced great quantities of strawberries, raspberries, blackberries and ultimately discovered the merits and prolificness of the dewberry, which he introduced and proved its merits to that extent that it is widely planted all over the State, as "Gray's Gardena Dewberry."

In more recent years Mr. Gray has dropped the harder work of soil culture and is now singing the praises of the section in which he lives to the inquirer who would learn what Gardena can produce and has produced. In fact, that is one point which can be said of Mr. Gray, that he makes no statements in which the soil, the water and the climate will not bear him out. His long acquaintance with Gardena conditions fits him to give just this information to the inquirer and we may say that many people to whom he has sold home places have voluntarily said for him that without exception his statements have stood the test of time. His interests about Gardena are somewhat extensive and his desire is for its permanent upbuilding rather than for the temporary advantage of an immediate sale of real estate. His office is located near the depot where both electric lines stop and his carriages are always ready to take the possible investor over the section. He is assisted by Mr. W. H. Powers, whose several years residence fits him to intelligently sing the praises of Gardena.

"Go to Gardena and see Gray."

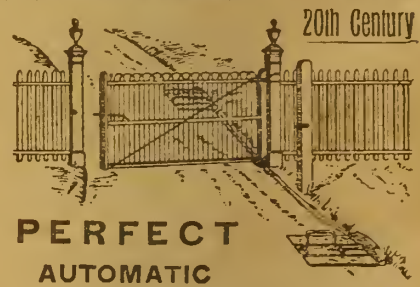
THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

ALFALFA RANCH FOR SALE
Sixty-acre stock and alfalfa ranch, 2½ miles from Buena Park and 1 mile from Santa Ana electric car line. 22 miles from Los Angeles. Abundance of artesian water, fenced and cross-fenced, house, barn and outbuildings. 18 head registered Jersey stock, 25 head Poland-China hogs, team horses, wagon and farming implements. Price $8000, with stock $7000, part cash, balance terms. Address GLEAVES BROS., 453½ S. Spring St., Los Angeles.

Ranch for Sale
To close an estate, we offer 33 acres near Compton, for sale. Choice alfalfa land. Best artesian well in that section. Water to sell. Address
Phone Main 922 C. F. LEE, Pasadena, Cal.

Stump and Tree Pullers
Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1½ minutes. 1 to 8 acres at a setting. Different sizes to suit all kinds of clearings. For illustrated catalog address
Powerful, Handy, Low Priced.

Milne Mfg. Co. 977 Ninth St., Monmouth, Ill.

20th Century

PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. Works 365 days each year. NO OILING—ten minutes each year and 10 to 20 cents expense—no more.
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma. California

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
— ARE RELIABLE —
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.
Send for samples.
PRICES
12 inch long, $ 9.00 per 100
14 inch long, 10.00 per 100
16 inch long, 11.50 per 100
18 inch long 12.50 per 100
24 inch long 15.00 per 100
30 inch long 17.50 per 100
Agents Wanted Everywhere
YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.

THE QUALITY STORE
FALL SUITS AND OVERCOATS
$15.00 TO $45.00
The guaranteed kind, and backed by the famous "M & B" label. Largest Dealers in Men's and Boys' Furnishing Goods and Hats.
Mail Order Department
MULLEN & BLUETT CLOTHING CO.
First and Spring Sts. Los Angeles, Cal.

Substantial Toys for Girls and Boys
AT HOEGEE'S
LOS ANGELES

Cyclone Pedal Wagons
Children's Autos
Auto Pedal Engines
Flying Dutchmen
Girls' Tricycles
Buckboards
Velocipedes
Wagons
As we grow old in business, we grow young at heart, and each Christmas time finds us better prepared than ever to meet the demands of our youthful friends for newer, more practical and stronger toys. This year it is the best to be had, and enough, we hope, to go around. If you cannot pay us a visit, write us about any article desired, and we will tell you all about it.
Act quick, time is short.
TENTS, GUNS
IRRIGATING HOSE
KHAKI CLOTHING
The Wm. H. Hoegee Co., Inc.
Phones—Ex. 7 138-142 So. Main St.

THE RAISIN GRAPE COMMERCIALLY.

(Continued from First Page.)

the roots of the vine, is a poor proposition, requiring an annual artificial supply of ingredients necessary for the the evaporation of this water, all of which is heavily charged with alkali, will in a short time make the upper soil incapable of sustaining any vegetable life, less hardy than Bermuda grass.

And, finally, the future of the raisin grape and the prosperity of the raisin industry will be determined by the margin of profit left to the vineyardist, over the cost of production, and we all know by experience that even when the supply does not exceed the demand, the competition among the vineyardists themselves to be the first to realize on their crop, utterly demoralizes the market, with the result that it is the impecunious grower who fixes the selling price, and that, without organization and co-operation, this is always the inevitable result.

We have today a strong organization in the California Raisin Growers' Association. With a very large crop usually to dispose of, the market has taken a full average quantity of raisins and its present requirements are supplied, but the market has been at times badly demoralized by offerings of raisins not controlled by the Association prices, which is a loss not only to the owner of these raisins but to the whole crop.

The remedy for this can be found in unanimous co-operation among producers and much better results will be attained if they stand firmly by the Association in its efforts to market the produce of the vineyards at profitable prices.

AGRICULTURE IN THE SCHOOLS.

There is none who will deny that our farmer boys and girls need to know the principles of agricultural practice. Some parents may fear that this new subject may take up too much time and interfere with regular work. But these are not real difficulties. The great trouble is to find teachers prepared to teach agriculture.

Each teacher having knowledge of the principles of agriculture is a missionary for better farming, be he man or be she woman. The errors of farm practice as seen around such teachers become most glaring. As teachers, they cannot hold their place while such things go on under their eyes.

Let it not be thought that these lessons have to do only with botany and geology and physics. They touch every side of farm life. Business accounts, farm mechanics, sewing, cooking, dairying and like topics are treated in a most instructive manner.

They will appeal to nine out of ten boys and girls. They want to know these things. Give the children the facts. They will respect farm life all the more. Such educational facts will make of them better citizens, more prosperous farmers, or healthier wives of farmers.

MAKING ASPARAGUS BEDS.

The seeds should be planted in rows about four feet apart if large quantity is to be raised, so that it may be cultivated with a horse. The seed may be planted thick so that the roots may intermingle. They should be kept growing till late in the fall when they are transplanted into the field.

Where a single row is to be planted for home use, the plants may be placed eighteen inches apart in the rows. For field culture the rows may be from six to ten feet apart and the plants from two to four feet apart each way in the rows, according to the soil and climate. The plants should be placed in the ground so that the crowns are a foot below the surface as they will gradually grow toward the surface. As the plants grow fill in the ground aroung the stems by cultivation until the ground is level at the end of the season.

As the plants are still not strong enough to force thmselves up through the one foot of soil during the first season in some situations, it is best to plow a shallow furrow over the rows before they start and work the dirt into it as before. This process will give early asparagus if other conditions are favorable as it allows the sun to get near the crowns and warm them up. Where irrigation is practiced it is best to withhold the water during the spring and late winter so as to allow the ground to warm up. This is the experience of the best growers.

On Bouldin island in the San Joaquin there are 1200 acres of asparagus in bearing, all of which is suitable for canning, and 500 acres of new planting. On Andrus island there are 600 acres, about 50 per cent. of which is suitable for canning. On Grand island there are also about 1000 acres, about 65 per cent. of which is suitable for canning. On Jersey island, about 200 acres; on Rough and Ready island, about 200 acres; on Mitchell island, about 200 acres; Pearson district, about 1000 acres in bearing. The output of Pearson district last year was about 25,000 cases; Bouldin island, about 110,000 cases, Grand island, about 25,000 cases; Sacramento 25,000 cases; Milpitas, 30,000 cases.

A FINE RANCH.

While in Gardena recently, we called at the Strawberry Park ranch of O. M. Johnson. More beautiful soil we never saw and on it is a big pumping plant which supplies several small ranches. It has a substantial residence which may be seen by an engraving on another page. And in poultry Mr. Johnson has some fine White Rocks and Bantams.

All told it's a fine home place and some day will be business property.

Waite, Bailey & Lynch, machinery merchants and engineers buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, motors, etc. Otto gasoline engines, all sizes, to 200 H. P., more economical, therefore superior to all others; prices and terms that will insure due consideration. See us and be convinced. Southern California sales agents, Waite, Bailey & Lynch. Office and manufactory, 943-945 N. Main st., corner Bruno st., Los Angeles, Calif. Phone Home 1263.

Farm Lands in Kings and Tulare Counties

Unsurpassed for raising Alfalfa, Hay and Seed, and for raising and fattening Hogs, Cattle, Horses and Mules. Corn, Wheat, Grapes and Deciduous Fruits produce immense crops and large profits.

SOIL

The soil is a rich sedimentary deposit composed of tule roots, shells and silt left by the receding waters of Tulare Lake which many years ago covered these lands.

WATER SUPPLY

Sub-irrigated at about 9 feet. In one of the best Artesian Belts in the State. Fine water for stock and domestic purposes at from 35 to 65 feet. Almost an inexhaustible pumping supply at 80 to 150 feet.

PROFITS FOLLOW IMPROVEMENTS

Several Hundred Thousand Dollars now being expended on our lands for improvements.

Seven rigs now boring artesian wells.

Three steam plows turning 82 furrows and large gangs of teams now plowing and cultivating on our lands.

Thousands of acres now being prepared for planting to orchards, vineyards, alfalfa and grain.

For particulars see

Fine alfalfa lands $30 per acre and up.

Larger tracts $15 per acre and up. Easy terms. Liberal rebates for immediate improvements.

Wanted—Practical experienced farmers who fully understand alfalfa and fruit raising, to rent tracts of 40 to 160 acres. Liberal terms. Outside work can be secured while crops are growing. Must have teams and implements or some means. Houses and barns furnished.

Special excursion next Tuesday night. About one-half fare.

SECURITY LAND AND LOAN COMPANY

Home Savings Bank Building, Cor. Spring and Court Streets, Los Angeles, Cal.

WHAT HAVE WE DONE TODAY.

We shall do so much in the year to come,
But what have we done today?
We shall give our gold in a princely sum,
But what did we give today?
We shall lift the heart and dry the tear,
We shall plant a hope in the place of fear,
We shall speak the words of love and cheer,
But what did we speak today?

We shall be so kind in the after-a while,
But what have we been today?
We shall bring to each lonely life a smile,
But what have we brought today?
We shall give to truth a grander birth,
And to steadfast faith a deeper worth,
We shall feed the hungering souls of earth,
But whom have we fed today?

We shall reap such joys in the by and by,
But what have we sown today?
We shall build us mansions in the sky,
But what have we built today?
'Tis sweet in the idle dreams to bask,
But here and now do we do our task?
Yes, this is the thing our soul must ask,
"What have we done today."

—Woman's Life.

The Good Luck of Simon

"Hip, hip, hooray!" Simon bounded through the kitchen door as if shot from a catapult, and tossed his hat to the ceiling, while he cut several capers and flourishes across the cleanly scrubbed floor. His face was a shade redder than usual, and a scintillating light shone in his eyes.

"Why, what on earth is the matter?" cried Mrs. Thistledew, startled out of her usual serenity, by this crazed exhibition on the part of her husband.

"Hip, hip, I say! Toss up your bonnet! Throw up your feet, send every thing flying!" cried Simon again, suiting the action to the words.

Mrs. Thistledew backed into a corner and looked at him with terrified eyes. It had come, that which she had always feared—Simon was insane! Yes, note the fire in his eyes! What should she do.

"Simon, oh Simon!" she began.

"Don't oh, or Simon me! No more ohs or woes for us, Helen. We're in clover," and Simon made a dash for Mrs. Thistledew's corner, and catching her in his arms began to waltz about the room.

"Oh, do stop! What will the children think? Let me go, do let me go!" cried the good woman, her fright increasing at this further proof of Simon's insanity.

"Not a bit of it! We must celebrate our good fortune. Don't ever tell me I don't know what I'm about!" cried Simon. "Don't interfere with my bargains again! I'm a huckleberry, I am, and knwo a good thing when I see it." Simon swung his partner again off her feet, as he whirled about.

"I wish—wish—you'd tell me—what—what this means!" gasped Mrs. Thistledew, in breathless terror. "I think you're crazy—or—or—drunk."

"Ha, ha! Drunk am I? Well, I've reason to be drunk. Drunk with success. What about the twenty acres now, madam? What about my bad bargains? Can you tell me? Come, let's hear from the court!" and dropping his wife into a chair, Simon stepped opposite her and stuck his thumbs into the armholes of his vest with the assumption of a bank president.

The panting woman looked at him anxiously.

"I've been offered twelve hundred dollars for the timber on the twenty-acre lot! What do you think of that, Mrs. Thistledew? How does that strike your ladyship? Did I strike a bargain, or not? Say, was that a bargain day when I bought the Green lot? Hey? Well, I should remark. And you opposed my buying it."

"Twelve hundred dollars! Oh, Simon!" Mrs. Thistledew caught her breath. "It cannot be possible—"

"It can't, hey? That's all you know about it. It's ship timber, and there are a couple of fellows in town buying up all they can get of it."

"Of all things, Simon, how did such luck ever come to us? Now we can pay off the debt and have—the land to pay taxes on," she murmured.

"Pay taxes on? Great Scott! Ain't the land worth anything? Don't you consider land worth anything madam?" Simon was red in the face.

"Why, yes, Simon, of course. But you have so much more than you can work, and I was wishing they had bought the land, too. For if the timber is all off of it, you will have to plow it, will you not?"

"The ship timber isn't all there is on the land, Mrs. Thistledew. If it was all ship timber we would be rich. But there's plenty more, to use for other purposes. You are enough to put a man in an insane asylum. I wonder I am not more bald-headed than I am.

"Well, I'm glad you are going to get something off from the land. You'll surely sell the ship timber, Simon?" she continued, as the thought of a possible hitch in the arrangements occurred to her.

"Well," said Simon with an assumption of indifference, "that depends. I think I should have fifteen hundred, and if by waiting for other buyers—"

"Oh, don't do it, Simon! No others will come. They will learn that the timber has been bought up around here and will not come. I do hope you will close the bargain at once." Mrs. Thistledew wiped the perspiration, caused by her excitement, from

"For once, madam, you cannot quote to me 'Procrastination is the thief of time.' For once I've nabbed Old Time by the forelock. I've anticipated you. The timber is sold and I have the cash in my fist. Look at that will you? Isn't that a sight for a blind man?" Simon flourished a roll of bills before his wife's face.

Mrs. Thistledew felt as if the world was dropping out from beneath her feet. Could it be possible. Fortune had come their way at last and there was a prospect of being out of debt? She felt as if a ton's weight had been rolled from her shoulders. They had already paid two hundred dollars on the thousand the land cost them, and now they could pay the remainder and have four hundred dollars left. It seemed a fortune to her just then. Visions of house improvement flitted before her eyes. Some new back steps and a cistern were possibilities, and maybe she could have that which she had so long wanted—a sewing machine. She heaved a blissful sigh of relief, but before she could put her hopes into words, Simon continued:

"Yes, I calculate this is going to put us on our feet. I ordered a new reaper-and-binder, as I came through town and a sulky plow. There are some improvements on the binders that will save a heap of hard labor. These things cost like blazes, but they'll leave me enough to pay my taxes and then we can start square with the world. I feel all at once like a millionaire."

"Yes? But couldn't you get along—did you have to get the sulky plow?" Mrs. Thistledew faltered. "You've always plowed with the others."

"What if I have? Is that any reason I always must in the future? I'm not going to be dragged along over hubble and stubble at the handle of a plow when there's a chance to ride, I can tell you. I've had enough of it! A sulky plow is one of my luxuries, madam!"

"Oh!" It was all Mrs. Thistledew could ejaculate, but it was expressive. "What's the matter with you? You look as if you had lost your last friend, instead of being off your head with this streak of luck."

Mrs. Thistledew had risen and was poking the fire in the dilapidated old kitchen stove, preparatory to getting supper. She made no answer.

"Why, I verily beileve you are crying. What in the name of all creation is the matter? Is that your way of showing joy?" Thistledew looked disgusted.

"I am—very—very glad, Simon," she stammered, but—but the smoke got in my eyes from this smoking stove, that is all." And she crept softly out of the room and carefully down the rickety steps to bring in an armful of wood.—Rosetta Luce Gilchrist.

A HINT TO MOTHERS.

A business man pointing to a woman and a young girl who were going up the street chatting to each other, said to one of the scribes:

"Do you know that woman?"

"No."

"Well, ostensibly she is a lady. She knows how to appear well in public and has the entree of respectable homes. In reality, as some men about town well know, she is a depraved woman. But she dresses well and preserves appearances. She has not been ostracised because she is smart and discreet. She deceives the elect.

"And the young girl. She is evidently intimate with the woman. Probably she is a pure girl. She will not be so long. I wish I knew her father. I would like to warn him. Couldn't you put something in the paper about dangerous women of that kind?"

The conversation set the newspaper man to thinking.

Mothers warn their daughters against all evil-minded men but are they careful concerning evil-minded women?

A morally debased woman is ten-fold more dangerous to an innocent girl than a morally bad man.

A woman is able to get closer to the girl. From a sullied woman the girl will see only the alluring side of sin. She will hear nothing of the woes of transgression. She will not be warned of the awful decline and the wretched end. And so she is tempted, tainted, ruined.

The woman here referred to is not exactly a procuress. In effect that is what she is. She will hand over that girl to evil ways, she will damn the girl body and soul.

Mothers!

As you love your daughters know the sort of woman with whom your child is intimate—Examiner.

TEACHING USEFUL LESSONS.

This is a utilitarian age. There are many lessons to inculcate in the minds of the growing generation, among which none is more important than the all-absorbing one of economy.

"Waste not, want not," "Save the pennies and the dollars will take care of themselves," and a score of other old adages are given the young mind to train it in the way it should go.

There is another idea of as much importance as economy, and that is to make a proper distinction between economy and parsimony.

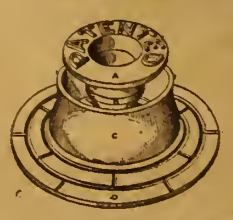
But while economy is a virtue, parsimony is a crime; and few parents draw a distinction between the two in talking to their children. I believe in saving a portion of one's earnings; I believe in keeping in advance of necessity, because it means usefulness instead of dependence; lifting instead of leaning; hopefulness instead of fear, in facing the future, says Ella Wheeler Wilcox. Continuing, she gives the following advice:

But of two misfortunes, I would rather see a child lean toward extravagance, if that extravagance were coupled with generosity, than toward a miserly tendency to accumulate and save.

Nothing dwarfs the whole nature more than parsimony. A young man whose leading thought is economy, and who counts every cent over and over with miserly care before indulging in a necessary expenditure or a

The Star Oil Burner

Its Own Gas Maker



Not an experiment, but a practically tested and successful invention. No superior for safety, simplicity, economy and durability. Without bolts, screws or rivets. Free from soot and smoke.

STATE AND COUNTY RIGHTS FOR SALE
For terms or territory apply at office of
WESTERN STAR MANUFACTURING CO.
148 W. FIFTH ST. - LOS ANGELES, CAL.
Call and See the Burner in Operation

BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

graceful courtesy toward a friend, is certain to grow narrow in his sympathies and prejudiced in his opinions, and, like a dwarfed, perverted vine tree, his tendrils will turn in and cling about himself instead of reaching out to adorn the world.

If you are just setting forth in life with an ambition to achieve, let generosity stand side by side with economy in your heart. If they are not there naturally, plant the seeds and water them well and expose the soil to the sun of love.

If you earn enough to save a few dollars a month out of your wages, don't spend it all, but make a rule of investing at least one dollar in some good cause for humanity. And do not forget, with every dollar so invested, add as interest your thought for the good the dollar may do. Do not give it to the first street beggar or the first professional letter writer who asks—that will be encouraging pauperism—but find some one more needy than yourself or more unfortunate, and plant your seed of generosity both for the sake of the one who will be benefited and for your own moral growth.

The opportunity to do a charitable act and thereby advance our own spiritual growth comes to every man and woman, and only as it is heeded, certainly does it add a gem in that crown of happiness which is free to all who court it.

Give something, a few pennies if no more, now and then, to aid the animal protective society and the humane educational organizations.

Children and animals never impose upon charity, and you may be sure whatever you do in their behalf is well bestowed.

Consider all such use of your small earnings as seed well planted. So surely as you cultivate this spirit of generosity and helpfulness so surely shall prosperity attend your efforts as the years pass, and so surely shall your enterprise meet with success.

THE PRETTY WOMAN.

Whatever philosophic advisers of the plain girl may say, personal attractiveness is almost an essential to a woman's success in life. We hear a great deal about the fascinating ugly girl, but we do not believe in her. "Goodness in woman, not her beauteous looks." No doubt, Mr. William Shakespeare! Goodness is, of course, a qualification which is indispensible to her, but it ought to be aided by beauty.

Why is it that since all ages woman's most fervent desire has been to have, and to retain, beauty? Because the heaven-sent instinct within her tells her that if she isn't pretty she will have a rather dull time of it in life! This is principally because the world and most things in it are—unjustly, most unjustly—in the hands of man, and of all things in this world the lords of creation like best a pretty woman. So where does the poor plain woman see her chance of success? She applies for a post of typewriter or secretary. She may be as learned as Minerva, as efficient as the head mistress of a county council school, as accurate as the gramophone, or possess all the other business qualifications under the sun, but if she is plain, that is to say, indubitably plain of face and figure, the would-be employer says, "Hum! Call again and we will consider it." Then he straightway engages the first pretty applicant! Probably the employer in question may not say two words a day outside business topics to the girl, but he objects strongly, that is all, to the presence of plainness.

Engage a nurse for your cherished infant. That cherished but misguided infant will turn scornfully from the homely, capable young woman who would encompass his youthful hours with comfort, and cry for the rosy-cheeked, blue-eyed maid who is probably most incapable, but who will amuse him and please his critical eye for the artistic. Your little boy will plead for a pretty governess, though your little girl, with more shrewdness, will perceive the beauty of goodness in the plainer face of another teacher. It is the pretty woman who gets all the burdens carried for her, doors opened for her, and her comforts considered, and is waited on asiduously by willing cavaliers—all for the reward of a smile and a brief word of thanks from the lips of beauty.

It is all very well to say it is charm of manner that counts, but charm of face is much more potent. A beautiful woman finds forgiveness where the plain woman may plead in vain, and what we term in the latter "shocking manners," we often call "originality" in the former. The pretty girl should see to it that she does not take undue advantage of her enviable position, for there are bounds beyond which even the most beautiful may not go. To apply the moral still further—beauty of person will fade, and the pretty woman who depends on her charm of face, will find herself bankrupt one day if she does not provide for the future of her popularity in some other ways.—Melbourne Leader.

THRIFT OUR SECOND NATURE.

How people can manage to look well in time-worn clothes is aptly told by a writer in the Farmers' Sentinel. The application can be made to every home in California no matter if the occupants are poor in this world's goods.

The writer entitles her article, "Mistaken Opinions of Frugality."

"She must have been poor," said a woman who had just returned from Europe, and was speaking of a lace-maker of Paris whom she had seen at work in her tiny apartment, "but there were no evidences of misery in sight."

The above remark, made not long since in my hearing, at once set me to thinking. Why was the idea of certain misery implied? Because the lace-maker lived in an humble way, of course. Had she hung out a gilt shingle before a glittering shop somewhere in the gay French capital, she would have presented a prosperous front to the world, even though it might have been that her rent was in arrears, and the clothes upon her back unpaid for.

It is barely possible that our ideas upon the condition resulting from the necessity of care in the management of household expenses need a little revision, if not a thorough overhauling. Few people are poor from choice. Most of us would enjoy absolute freedom from anxiety about money matters; there is not a doubt of it; but that misery is bound to accompany habits of thrift and economy does not by any means follow. The most independent person on earth and the happiest is he who has the sense to use his money in the right way. No starting at the ring of the doorbell for him; no dodging across the street to escape the demands of importunate creditors; no stammering excuses to collectors about bills that can never be paid. The softest pillow ever made is the one that supports the head of the provident man or woman. It contains no thorns, has not even the sharp end of a feather to arouse us to a sense of trouble and concealment. There is no trouble or concealment. Do we wear shabby clothes? Well they are paid for. Wasn't Dr. Johnson who went about with shabby elbows of a coat "all his own," in contrast to Goldsmith, who sported blue velvet suits for which he never paid? Perhaps our table lacks delicacies, but it holds enough of the plain substantial food that nourishes a healthy body, and with this we must be content until such time as fortune smiles again. And if it should be that the dame steadfastly refuses to look pleasant, why, it will not matter much, for our thrift will have become second nature to us."

BUYING BY MAIL.

Editor Cultivator: I live in the country, ten miles from Riverside, I have been buying my goods of late by mail order. Goods are delivered the third day by R. F. D. I find I can do better in this way than to go to town twice a week, lose a day and come home tired out. It is convenient and saves time. I make payment at the end of the month, the bill for each order accompanying the package delivered. It is much simpler and takes much less time to write an order than to visit the store, and my orders are always filled very exactly and promptly. I have never yet had any unpleasantness with a clerk and find when clerks are treated as they should be, they are willing and anxious to please a customer no matter what the amount of the purchase.

I would like my farmer sisters to try the plan. I think they will like it.—M. E. L.,Corona.

USE OF HONEY IN COOKING.

Editor Cultivator: Please publish some receipts for use of honey in cooking or baking.—J. E. B., Escondido.

Strained honey is sometimes used for sweetening sauces, but not generally. There is the danger always that its flavor may attach to the article it is used with. Honey contains more saccarine matter than sugar and would have to be used in the proportion of molasses or syrup. Cook books do not contain any well authenticated rules for the proportionate amount of honey as compared with sugar. So we can not give definite rules for its use. Be governed by taste when using it.

Cookery Recipes

Corn Bread.—This is particularly choice when made with sour cream. Mix and sift together one and one-half cups of corn meal, one-half cup of flour, one teaspoon of salt, one tablespoon of sugar and one-half teaspoon of soda. Beat an egg, add a cup of thick sour cream and pour gradually into the dry ingredients. Beat thoroughly, add cold water or a little more cream if necessary to thin the mixture slightly. Pour into a hot, well-buttered pan and bake from twenty to thirty minute in a moderate oven. Bake in gem pans for muffins.

* * *

Quince Marmalades.—Pare and quarter and core the quinces; and cook the cores one hour, strain the juice through a strong jelly bag to extract all the gelatineous substance. The quinces should in the meantime, have been covered with cold water. Drain the fruit on a cloth, add the juice, mash through a coarse collander, add the heated sugar, and cook about 15 minutes, or until thick and smooth.

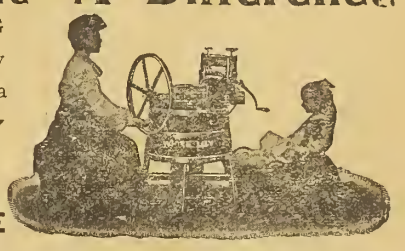
* * *

To Prevent Burning.—If several large new marbles are dropped into the kettle where fruit is cooking, they will prevent burning on the bottom, the marbles being kept in motion by the boiling. Try it when making apple butter, marmalade or catsup, requiring constant stirring.

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

The Green-Marshall Co.
Manufacturers and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address KOCH V. T. CO., Box C, WINONA, MINN.

Oh! What A Difference
IN THE MORNING
Especially wash day morning when you use a
WHITE LILY WASHER
JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY
WHITE LILY WASHER CO.
1539 Rockingham Rd, Davenport, Iowa

Union Bank of Savings
RESOURCES $3,831,680.29
3% Interest Paid on Ordinary Deposits
4% Interest Paid on Term Deposits
Increase in Deposits since June 30th, 1904 $1,300,000.00.
Safe Deposit Boxes from $4 yearly up.
223 South Spring St. Los Angeles, Cal.

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equal y as well under water as above it. It is also automatic lly balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS
411 Market St. San Francisco, Cal.

ORPHANS RECEIVED.

The following named children have been admitted to the Boys' and Girls' Aid Society of South Pasadena, Cal., since the last report:

Jewel Sternberg, Ger., half orphan, light brown hair, light brown eyes, 8 years old; Marian Sternberg, Ger., half orphan, blonde, 2 years old; Albert Williams, Eng., half orphan, brown hair, blue eyes, 8 years old; Bruno Yimez, Mexican, orphan, black hair, black eyes, 9 years old; Louis Yimez, Mex., orphan; black hair, black eyes, 8 years old. Lucia Yimez, Mex., orphan; black hair, black eyes, 2 years old. Emil Stern, Ger., half orphan; brown hair, blue eyes, 11 years old. Laura Higuero, Mex., half orphan; black eyes, blaek hair, 12 years old. Nora Manes, Amer., half orphan; blonde, 12 years old. Georgia Manes, Amer., half orphan; blonde, 9 years old. Josie Manes, Amer., half orphan; blonde, 6 years old. Claud Manes, Amer., half orphan; blonde, 4 years old. Frank Alfrado, Mex., half orphan; brunette, 8 years old. Neva Jester, Amer., half orphan; brown hair, blue eyes, 8 years old. Edmond Kassold, Ger., half orphan; blonde, 12 years old. Oliver Morgan, Amer., half orphan; brown eyes, brown hair, 10 years old. Florence Mefford, Amer., half orphan; brown eyes, brown hair, 7 years old. Ella Kendall, Amer., half orphan; brown eyes, brown hair, 4 years old. Isidoro Ortiz, Mex., half orphan; brunette, 8 years old. George McAuley, Scotch, half orphan; brown hair, blue eyes, 6 years old. James McAuley, Scotch, half orphan; brown hair, blue eyes, 5 years old. Margaret McAuley, Scotch, half orphan; 4 years old. Frank Flores, Mex., half orphan; brunette, 8 years old. Grace Welty, Ger., half orphan; brown hair, brown eyes, 10 years old. May Welty, Ger., half orphan; brown hair, brown eyes, 12 years old. Graee Parry, Mex., half orphan; brunette, 11 years old. Beatriee Parry, Mex., half orphan; brunette, 6 years old. Emil Robinson, Amer., half orphan; blue eyes, light brown hair, 8 years old. Alfred Robinson, Amer., half orphan; brown eyes, light brown hair, 3 years old. Frank Digiovana, Italian, orphan; brunette, 12 years old.

MARGARET BOYNTON, Supt.

Los Angeles Markets.

Los Angeles, November 2, 1905.

Butter.

Butter receipts are heavy, and a slump is expected shortly.

B. of T. Creamery, per roll 67½
Valley Creamery, fancy .....65@67½
Coast Creamery ... .55@57½
Fancy Dairy ....50@52½
Cooking 28

Cheese.

Cal. 3-lb hand 18
Cal. Young America 17
California Anchor 16
Northern ....13@13½
Eastern ....15@16
Domestic Swiss 18
Imported do 28

Eggs.

Eggs are advancing, with a limited supply.

Eggs, fresh ranch 38
Eastern and Storage ....28@32
Seconds 23

Poultry.

Poultry is scarce and in keen demand.

Fryers, 2½ lbs 15
Broilers, under 2 lbs, per lb 17
Young Roosters, per lb 14
Hens, per lb 15
Ducks, per lb 12
Geese 12
Geese 11

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt $5.50
Prime Steers, cwt 3.50
Cows, cwt..... ....2.85
Calves, cwt 4.50
Sheep, ewes, per head 3.25
Lambs, do 3.25
Wethers, per head 4.50

Potatoes.

Northern, per cwt $1.00
Locals, per cwt 75
Sweets, white, per cwt .....90@1.00
Sweets, yellow ....1.00@1.40

Vegetables.

Onions have advanced 10 to 20 cents per sack.

Onions, Silver Skins, sks.....80@1.00
Onions, yellow, per cental ...90@1.10
Beets, per 100 lbs 75
Cabbage, per sack ... ...40@50
Cauliflower, per doz. ... .30
Bell Peppers ....4@5
Cucumbers, per box ... ...45@60
String Beans ....3½@4½
Wax Beans 5
Green Onions, doz bunches ....20@25
Carrots, doz. bunches 30
Turnips, doz. bunches .....25@35
Garlic ....6@8
Celery, dozen ....25@35
Peas, per lb ....3½@4
Egg Plant ....3½@4
Chili Peppers, green ....2@2½
Chili Peppers, dry ....15@20
Tomatoes, local ... ...35@50
Parsley, per doz. bunches ... .30
Summer Squash, bx 20 lbs ...25@35
Green Corn, per sack ... ...75@1.25
Lima Beans ....3½@4
Rhubarb 2½

Citrus Fruits.

Valencias ....$3.50@4.50
Lemons, standard ... .1.50@2.00
Lemons, fancy ....3.50@4.50
Grapefrnit ....2.00@3.00

Fresh Fruits.

Apples, 4-tier Bellefleur .....75@1.10
Apples, 4½-tier Bellefleur .....75@85
Apples, 4½-tier Rhode Is. Grn 90@1.10
Apples, Red Pearmain 1.15
Apples, Gravensteins ... .90@1.10
Strawberries ....10@15
Pomegranates, per crate .....40@50
Peaches, per box ... ...75@1.25
Plums ....90@1.25
Figs, per box ....50@75
Black Figs ....50@75
Muscats ....85@1.00
Tokays ....1.25@1.35
Cornichons, lb ....5@6
Quinces, per box 1.25
Pears, Winter Nellis, per lb 3
Muskmelons, large crates ..2.00@2.50
Desert Cantaloupes .....1.00@1.50
Watermelons, doz ... .35@1.75
Guavas, per basket ....5@6

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11c; fy, 8½; ch, 7½.

Peaches, fy, 9@10½c; ch, 7½@8c.

Prunes, Santa Clara, 30-40, 8½c, 40-50, 7½c; 50-60, 7c; 60-70, 6½c.

Loose Muscatel Raisins, 2-crown, 4½c; 3-crown, 5c; 4-crown, 6c.

Beans, Dried.

Limas 5.50
Pinks, fancy ....2.90@3.00
Lady Washington 3.00
Large Whites ....3.00@3.25
Black Eyes ....2.50@2.75

Nuts.

Walnuts, No. 1 soft shells 14½
Do, No. 2 9
Do, No. 1 hard shells 12
Do, No. 2 hard shells 10
Almonds, paper shell..... ...16@17
Almonds, soft shell ....18@20
Peanuts, California, ...6@7½
Peanuts, Eastern ... ...7½@8

Honey

Honey, comb, frames ... .12½@13
White, strained, per lb .....5@5½
Amber 4½
Beeswax ....22@25

Hay.

Barley, new ....12@14.50
Alfalfa, local, new 14
Alfalfa, Northern ....11@12.50
Wheat, new ....13@14
Tame Oat, new ....11@14.50

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ....$1.40@1.45
Barley .... 1.10@1.13½
Corn ....1.25@1.30

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran $1.30
Feed Corn Meal 1.55
Middlings 1.40
Wheat ....$1.65@1.70
Cracked Corn $1.50
Corn $1.45
Oil Cake Meal **$2.10**
Cocoanut Meal **1.55**

San Francisco Markets.

Dairy.

San Francisco, Nov. 1, 1905.

Butter was decidedly slow on Change yesterday. Plenty of California extras were offered at 28c and Eastern ladle at 19½c, but the best bids were 27½c and 19c respectively.

BUTTER—Fresh California extras, 28c, steady; firsts, 26½c, weak; seconds, 24@25c, steady; thirds, nominal.

Eastern Extras, 24½c, steady; firsts, 23½c, steady; other grades nominal; Ladles, extras, 20c, steady; firsts, 19c steady; other grades nominal.

Storage—California extras, 24½c, steady; firsts, 23c, steady; Eastern extras, 24c, steady; firsts, 23c, steady; Ladies, firsts, 20c firm; firsts, 19½c, steady.

CHEESE—New California, fancy, 13½c, firm; firsts, 12½c, firm; seconds, 11½@12½c, firm.

Eastern—Cheddars, 15½c, firm; Flats, 16c, firm.

Western — Cheddars, 14c, firm; Twins, 14½c, firm.

Storage—California fancy, 12½c.

Eggs.

Selected ranch eggs held steady at unaltered prices, although one lot was sold at a fractional concession.

EGGS—Fresh California Ranch, selected, 49c, firm; firsts, 45@46c, firm; second, 42½@44c, steady; thirds, 25@27c, weak; California Store, nominal.

Eastern—Selected, 27½c, firm; firsts, 24@25c, firm; seconds, 20c firm.

Storage—California selected, 27c, steady; firsts, 25c, steady; seconds, 24c, steady; California Store, selected, 25c; firsts, 24c. Eastern, selected, 25c, firsts 23@24c.

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $5@6; Hens, Fryers, $4@4.50; Broilers, $3.50@4; Hens, small, $4@5; large, $6@7; Live Turkeys, per lb., 20@22c; dressed turkeys, 24@26c; Ducks, old, $3.50@4; young, $4.50@5.50; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1.25@1.50 young Pigeons $1.75@2.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, fancy, $1@1.25, common to choice 40@85c.

Pears, per box, Winter Nellis, $1@1.75; other varieties, 75c@1.25.

Table Grapes—Per box or crate. Muscats, 60@90c; Cornichon, 85c@$1; Blacks, 50@90c; Verdels, 50@85c; Tokays, 50@90c; Isabellas, —; open boxes, $1@1.50, as to variety.

Persimmons—Per box, 75c@$1.

Quinces—Per box, $1@1.50.

MELONS—Cantaloupes—Per crate, $1@2; Nutmeg Melons, per box, 75c@$1.50.

BERRIES—Blackberries, per chest, nominal.

Raspberries—Per chest, $6@9.

Strawberries—Per chest, Longworth $8@9; large varieties, $4@5.50; Santa Clara, $6@8.

Citrus Fruits.

CITRUS FRUITS—Per box: Oranges, Navels, $3.50@4.50; Valencias, $3.50@5; Lemons, $2@4; Limes, $4@4.50; Grape Fruit, per box, $3@4.50.

Vegetables.

VEGETABLES—Tomatoes, per box, 50c@$1.25; Green Peppers, per box, 60@75c; Okra, per box, $1@1.25; Beans, per lb., Green, 5@7c; do Wax, 5@7c; Lima, 5@7c; garden peas, per

lb, 6c; cucumbers, per box, $1@1.50; Summer Squash, per box, $2; Egg Plant, per box, 75c@$1.25; Garlic, per lb, 5½@6c; Marrowfat and Hubbard Squash, per ton, $10@12.50.

POTATOES—Per ctl: River Burbanks, 50@65c; Salinas Burbanks, $1@1.30; Oregon Burbanks, $1.05@1.15; Sweet Potatoes, Merced, $1.40@1.60.

ONIONS—Per sk, Yellow, $1.10@1.20.

Dried Fruits.

DRIED FRUITS—Prices for carloaa lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c; four-size basis, 3½@4¼c; old crop, 2¾@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Prices per lb, f. o. b. Fresno, are as follows, 1905 crop: Seeded, per pkg: Fancy, 16-oz, 7¼c; do, 12-oz, 6c; choice 16-oz, 7c; do, 12-oz, 5¾c; fancy bulk, per lb, 7c; choice, do, 6¾c; Loose Muscatels, 50-lb bxs, standard, 4-crown, 6½c; do 3-crown, 6c; do, 2-crown, 5¾c; do, seedless, 4½c; do, floated, 4¾c; Thompson's Seedless, unbleached, 6½c; bleached, standard, 7c; do, choice, 8c; do, fancy, 9c; do, extra fancy, 10½c; Seedless Sultanas, unbleached, 4c; bleached, standard, 5½c; do, choice, 6c; do, fancy, 7c.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Beans and Peas.

BEANS—Prices per ctl: Large White, $2@2.40; small do, $3@3.25; Pea, $3.25@3.75; Lima, $3.40@3.50; common shipping points, $3.20; Red, $3@3.50; Pink, $1.75@2.15; Bayos, $3.50@3.75; Blackeyes, $4.40@4.60; Red Kidney, $3.50@4; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $1.75@2; Green, $1.75@2.25; Field, $1.50@2.

Live Stock.

Conditions throughout all departments of the Live Stock market are purely a reflection of the features thoroughly reviewed for some time past. Sheep continue in scant supply and rule strong at full quotations and A1 Steers and Lambs share second place interest at firmly held rates. Calves and Hogs are plentiful at the familiar prices.

CATTLE—No. 1 Steers, 6½@7; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers 5@5¼c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c; Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3¾@4¼c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hay and Cereals.

HAY—Per ton: Wheat, $11.50@16.50; Wheat and Oat, $11@15; Oat, $8@12; Barley, $8@11; Clover, $7@10, Alfalfa, $6.50@9.50; Stock, $5@7.

WHEAT—No. 1 Shipping, per ctl, $1.36¼@1.40; inferior grades, $1.20@1.35; White Milling, good to choice, $1.40@1.43¾, and $1.45 for fancy.

BARLEY—Choice No. 1 Feed, $1.20@1.25; same fancy grades up to $1.26¼; common to fair, $1.15@1.18¾ inferior grades, $1.10@1.13¾; Shipping and Brewing, $1.26¼@1.30; Chevalier, nominal.

OATS—Good to choice White, $1.35@1.45; Red, $1.50@1.62½ for choice to fancy; $1.15@1.32½ for common to fair; black, for seed, $1.60@1.70; lower grades, $1.25@1.55.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large, Yellow, $1.45@1.50; small do, $1.60@1.65; White, $1.40@1.45; Eastern Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.35@1.40.

CITRUS MARKETS

The first car of new crop oranges was sent East on Oct. 28, from Exeter, Tulare county, and was consigned to Winnipeg, Manitoba, and the Tulare district expect to maintain an average of fifteen cars per day until the crop is cleaned up.

A few cars of old Valencia stock are still going forward from the southern end of the State, but the quality is deteriorating and the price is lower.

The first car of new crop navels was shipped Wednesday by the Altland Fruit Co., Orange, and was consigned to New York, but as a general thing the fruit is not yet in condition to ship.

New York.

Three cars of Valencias and four of lemons were offered Friday. The oranges were of indifferent quality, as a rule, but brought fair prices, averaging from $3.50 to $8.34 per box. Heavy offerings of foreign lemons were in the market, so Californias rule easier, averaging $4.52 to $5.54.

Monday brought four cars of Valencias and two of lemons. Oranges brought $5.79 for Old Mission on an average, other grades going as low as $3.56. Lemons steady, averaging $5.27 for ex fy to $4.17 for st.

Five carloads of lemons, but only one of oranges were offered Tuesday. The valencias brought from $4.08 to $5.36 on an average, while lemons were easier at an average of $3.43@$4.50, as to grade.

Two cars each of lemons and Valencias were offered Wednesday, Old Mission brand averaging $7.72, while lemons ran from $3.95 to $4.26.

Good openings for growers of small fruits near most every small town. Look about and see if the market is supplied with fancy home grown berries.

NO DUST
OR CINDERS

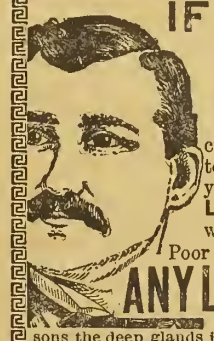
The California Limited is perfection itself in modern transportation.
D. W. OLFSENWEL,
New York City.

SANTA FE IS THE WAY

PROSPECTOR'S EXCURSIONS
from LOS ANGELES to
NIPPENO, round trip, $20.00
GOOD SPRINGS " 20.95
LAS VEGAS " " 23.60
MOAPA " " 27.55
CALIENTE " " 33.45
VIA THE
Salt Lake Route
These tickets will be sold daily, commencing Nov. 1st., with a return limit of 30 days. Mining literature gladly furnished free. Los Angeles City Office, 250 South Spring St
SALT LAKE ROUTE
E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING
PAPER
MANUFACTURED BY
PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

RUBEROID ROOFING
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679
242 to 248 So. Los Angeles St., Los Angeles, Cal.

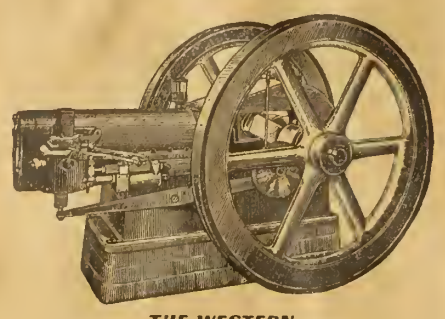
I WILL GIVE $1000
IF I FAIL TO CURE ANY CANCER OR TUMOR
I treat before it Poisons Deep Glands or Attaches to Bone.
NO KNIFE OR PAIN, NO PAY UNTIL CURED.
NO X-RAY OR OTHER SWINDLE.
A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. 3000 CANCERS cured on people you can see and talk with. ANY TUMOR, LUMP OR SORE on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.


ANY LUMP IN WOMAN'S BREAST IS CANCER
It does not pain until almost past cure, and if neglected it ALWAYS poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK, sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.
DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]
23 AND 25 THIRD ST., NEAR MARKET ST., SAN FRANCISCO.
PLEASE SEND THIS TO SOME ONE WITH CANCER.

Choice of
MANY ROUTES
East and West
SOUTHERN PACIFIC
SUNSET Via New Orleans and El Paso
OGDEN Via San Francisco
SHASTA Via Portland
Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.
Full information at 261 S. Spring St., Los Angeles, or from any agent
SOUTHERN PACIFIC

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST, STRONGEST, SIMPLEST
MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

BUY NOW AND GET SUMMER PRICES
BURNS CHEAPEST FUEL

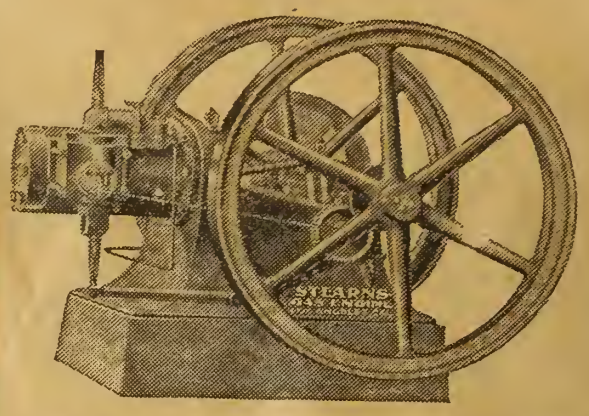
Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

GASOLINE ENGINES, WINDMILLS,
IRRIGATION MACHINERY,
FAIRBANKS' STANDARD SCALES,
STEAM PUMPS, DYNAMOS,
MOTORS, PIPE, CASINGS,
FITTINGS, BELTING, Etc.

MANUFACTURED AND FOR SALE BY

Fairbanks, Morse & Co., 136 and 138 So. Los Angeles St. LOS ANGELES, CALIFORNIA

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

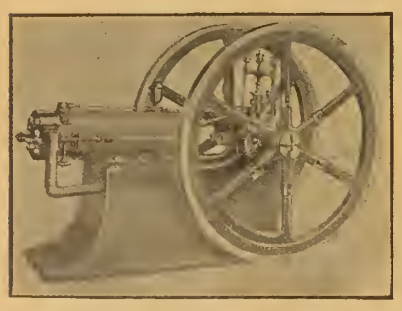
MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

Wm. Gregory
602 North Main St. Los Angeles, Cal.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

For Anything in the Plow Line ask us about the

SYRACUSE CHILLED PLOW CO.'S GOODS

Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the

FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.

Have you seen the "New Harrison Wagon?"

L. A. MARTIN & SON
129 Wilmington St. Los Angeles, Cal.

Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.

When writing to Advertisers Please mention Cultivator

30.5

California Cultivator

LOS ANGELES SAN FRANCISCO

NOVEMBER 10, 1905

A HERD OF HOLSTEINS IN AMADOR COUNTY, CAL.

The record made at the St. Louis cow demonstration by the owners of the pure-bred Holstein-Friesians, shown in the accompanying cut, has created singular interest among dairymen, who heretofore have never been willing to acknowledge that the Jersey has a competitor. They are noting the accomplishments of the Holsteins with surprise. The above photograph is from the State Industrial Schools herd of Holsteins, located at Ione, Amador county, California.

CIRCULATION EXCEEDING 10,600

You You Yours

Your Business to Consider

A ton of Shorts or Bran or Chop Feed contains not much more than 180 pounds of digestible protein; while a ton of COULSON'S EGG FOOD contains over 300 pounds of digestible protein.

Now as "protein" is one of the most valuable parts of the feed for making eggs, you can readily understand that you will get more results from one ton of COULSON'S EGG FOOD than you would from a ton and a half of either shorts, Bran or Chop Feed.

Therefore, it would actually be cheaper for you and prove more profitable for you if you should feed your pullets and laying hens COULSON'S EGG FOOD every day.

Unless a food, however rich in protein, is relished, it loses much of its value.

Therefore, we make COULSON'S EGG FOOD in a condition that fowls will relish it.

They eat it greedily—THEY JUST GO FOR IT—because it tastes good to them and they like it so.

If you should feed only grain and a mash composed only of Shorts, Middlings and Chop Feed, etc., without any extras, in the way of animal foods, your average profit on your entire flock would probably not average over 75c per hen, per year.

If you should mix Beef Scraps, Meat Meal or Meat, etc., with the other feed, the profit might be increased to $1.00 per hen per year. If you should feed the hens COULSON'S EGG FOOD every day, a food that is just right, the hens will earn you a profit averaging from $1.25 to $1.50 per hen, and sometimes more, per year.

Now, if the above is true, and it undoubtedly is, one would do BETTER BY USING COULSON'S EGG FOOD, and save a lot of worry and both of mixing feed, etc.

(1¾) Tons of Shorts at $25.00 per ton would cost $44.00.
(1¾) Tons of Bran at $24.00 per ton would cost $42.00.

Therefore one ton of EGG FOOD is equal to $44.00 worth of shorts; it is equal to $42.00 worth of Bran, or $45.00 worth of Chop Feed or $50.00 worth of Corn; and it is better because it also keeps the fowls in more active and healthy condition.

COMMENTS:

184 EGGS PER HEN

Henry Graff, a prominent poultryman near Petaluma made a flock of 1400 hens average 184 eggs apiece during the past year.

THAT'S GOING SOME

Considering the large number of hens,—as there are always some hens that are not layers.

They were fed once every day on COULSON'S EGG FOOD.

I have fed your Egg Food for the past three months to my flock of 200 pure-bred Brown Leghorns with the best results. I believe it HELPS THE FERTILITY OF THE EGGS, as I have had a higher percentage of hatches than heretofore, and can cheerfully recommend to all poultrymen.
W. E. MERCER, Ventura, Cal.

This is the first season I have used COULSON'S EGG FOOD and I consider it excellent for the purpose. Since August last I have had MORE THAN DOUBLE THE NUMBER OF EGGS I ever had before from the same number of hens. A. A. HENRY, Rumsey.

I have fed your Egg Food and had good results.
S. M. BUTLER, (Arrowhead Strain B. P. Rocks.)

I find your Egg Food proves to be just what you recommend it to be.
E. M. SHELFORD, Cloverdale, California.

Have been using your feed since last August, 1904, and have never had such a healthy, happy lot of hens before. It carried them safely through the molt without any sickness and they are laying well at present with eggs at 35 cents a dozen.
MRS. E. M. HICKS.

Full particulars of your dealer. If he does not keep COULSON'S FOODS, etc., give us his name and we will tell you where and how to get them, and save you money.

A Sack of Coulson's Egg Food

The World Renowned
COULSON'S EGG FOOD

A Balanced Ration or Mixed Feed for Pullets and Laying Hens

Intelligent Feeding.

Feed the hens Coulson's Balanced Ration Egg Food. You can buy it nearly as cheap as wheat, and it will make the hens lay better than any other food.

A hen is simply an egg-making machine. Feed her properly and she is bound to lay eggs regularly. Feed as a mash one meal a day. Simply wet it up with a little water or skim milk, and it's ready to feed: it saves you time; it's the busy man's friend. Feeding a properly balanced ration the year round will yield double the profits if you feed COULSON'S.

Take the sack of Coulson's Egg Food, dump some of it out in a box—pour some water or skim milk on it. Stir it up so as to make a dry mash, (meaning not too wet), then pour it into the feed troughs for the growing pullets and laying hens. They should be fed COULSON'S one meal every day.

The supreme test of a hen is her Egg-Making Capacity. A good hen should lay about 200 eggs per year, which she will do if fed regularly on COULSON'S EGG FOOD.

Cut out this slip. A handsome needle case free.

What poultry have you? ....

Do you use Coulson's Foods? .... If so, what kinds and

how long? ....

What results have you had? ....

When will you need a new incubator?..... ....

Have you had samples of Coulson's Foods? ....

Does your dealer keep them? ....

Your dealer's name? ....

And address..... ....

Your name ....

Address ....

(On return of this properly filled out we will mail you a valuable and handsome needle-Book. If a copy of our new 80-page Catalogue and Egg Record is desired, send us 5c postage.)

$500.00 to be given away. Look for particulars in every 100-lb. sack Coulson's Special Chick Feed.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 19 LOS ANGELES, CAL., FRIDAY, NOVEMBER 10, 1905 Subscription $1 a Year

Trees in the Landscape a Valuable Asset

By A. J. Wells

Beauty is not quite as necessary as bread, but it has its place in the scheme of human life. A man need not be indifferent to his surroundings because he has to grow potatoes, nor be blind to the esthetic value of a tree because it yields him a bag of walnuts or a crate of cherries. His eucalyptus trees will pay for their board in firewood and honey, but meantime they are a delight to the eye and an addition to the landscape. Emerson puts it in homely verse,

"One harvest from your field
Homeward brought your oxen strong;
Another crop your acres yield,
Which I gather in a song,"

and it may be that a wise estimate of life would show that this unseen harvest is as valuable as the one we haul into the barn, or sell in the market place.. It does not count on the ledger, but does in the growth of life. We may be so related to the fields we cultivate as to get out of them something for the character as well as the purse.

In that powerful story which yet failed called "Dred: a tale of the Great Dismal Swamp," Harriet Beecher Stowe makes one of her characters say, "I have no respect for a man who does not appreciate a tree," and he goes on to commend historic Xerxes because he was moved once by the wild grace of a tree, and ordered it hung with chains of gold. A graceful tree is its own excuse for being, and its beauty cannot be enhanced by gew-gaws. When one was cut down against his protest in the temple grove at Okubo in Japan, Lafcadio Hearn built him a new house a mile away, that he might not be distressed daily by the sight of the ugly gap left in the grove.

The tree's place in the landscape cannot be taken by anything artificial. It is an essential part of the beauty of nature and no landscape is lovely that is naked. The monotony of our wide California "plains" is splendidly relieved by the park-like groves of oak which dot them. We have destroyed our forests almost wantonly, but we cannot see the rugged lines of these California oaks without respect for the farmers who have spared them for the sake of the landscape.

One hitched his horse to a valuable tree in front of Judge Blank's door, and when scored roundly for the damage that resulted, said, "I guess I can pay for it." The reply was, ""It took God Almighty a hundred years to make that tree, and you won't live long enough to pay your debt."

The oaks which are the glory of our California valleys were long in making, but most of them are old and childless, and they will gradually disappear. They are too few and far between for the best landscape effects, for which height and mass are essential. Nothing will serve us here better than extensive groves of eucalyptus. If we could spare the land for belts of these evergreens—for woodlands rather than household groves,—if towns could provide on the windward side real forests of a dozen or more varieties of these exotics from hot and trees are quickly grown. Too often comfort in the house and in the school room, and beauty around both are lost sight of in the effort to get on, and beauty as something to be cultivated, trees for the sake of the landscape or ornamental grounds as an investment are thought to be quite outside the range of " practical life." When E. P. Powell, the writer and horticulturist, devoted one-third of his home place of 13 acres at Clinton, N. Y., to ornament, an old farmer chided him for being a fool. He replied, "I will get more income from the rest than you will get from your whole farm," and later, when from his highly improved acres he sold four for $5000, and was able to show a good

Courtesy Cal. Northwestern R. R. Co.

Where Trees Make the Landscape.

the antipodes it would add to the joy of living in many ways. It would break the sweep of desert winds or "north winds," protect orchards and gardens, filter and arrest dust laden currents of air, conserve and balance atmospheric moisture, modify the aridity of summer, temper the winds of winter, be a refuge for birds, a shade for stock, and last of all and best of all, a delight to the eye wearied by too much sun.

In the country the gracelessness of ranch buildings is accentuated often by their nakedness, and forlorn school houses are frequently seen setting sunburned by the wayside, a reproach to us in a land where summers are surplus beyond living expenses from the balance, his critic surrendered. "You've cultivated the beautiful, and by gosh you have made money at it.' We have not learned the A B C of country life if we do not know that profit may keep step with beauty in a thousand ways in California.

I saw the district below Los Angeles for the first time in 1882. The brown and gray plains were almost treeless, and flat and unattractive. Today that region is transformed. "Blue gums" have been widely planted for fuel and what was meant for a bit of farm economy has become a feature of the landscape, and it is not too much to say that every acre has been enhanced in value by the beauty of the groves. Between Naples and Elwood on the Coast Line of the Southern Pacific is a ranch made attractive by a series of windbreaks of Eucalyptus, and doubtless the stock in the fields, as well as the farmer, is made more comfortable. Adjoining this handsome place on the south is a "camp"—I can not call it a home set down in the open field, farm house and farm buildings and corralls swept by the wind and swimming in the sun, not a shrub or tree in sight.

In our great valleys few things will help to promote settlement more than tree planting. The squalid look of many country homes on these plains would be relieved by a few clumps of Eucalypti, and judiciously planted, they would be profitable as windbreaks. For these we would prefer E. rostrata, the Red Gum with E. polyanthema the Red Box or Australian beech and E. rudis, which does well in dry sections. For single trees or groups E. Sideroxylon or iron bark and E. corynocalyx with its white stem and red branches, and E. botryoides, a rapid grower and a handsome and vigorous tree are all desirable.

I would add, I think, for shelter and beauty and later use, the Catalpa speciosa. It will serve the landscape well while providing the best fence posts in the world and when mature

(Continued on Page 455)

BY J. W. MILLS, POMONA, CAL.

FERTILIZERS OF OLIVE TREES.

Of all the fruits grown in California perhaps the olive has been planted upon the most unfavorable soils for profitable production. This has been the result of an early idea, and one which is as yet to some extent prevalent, that the olive tree would do well upon soils much poorer than other trees would stand. As a result of this mistake in the earlier history of fruit plantings there are now large numbers of olive plantations which have failed to produce profitatble returns, and in many cases have been dug up and replaced by other fruits. It is altogether probable that careful attention given to the matter of feeding the trec would have rendered it possible to save many of these orchards, and to have secured fairly profitable returns, and perhaps more profitable returns than can be secured from the same soils planted to other fruits. Still there are many such orchards remaining in the State and there is an increasing demand for information as to the plant food required by this crop. This is becoming more and more apparent on account of the continued failing of these orchards, not only to produce crops, but also from the general debilitated condition of the trees themselves.

While it is true that the olive tree is not a gross feeder as measured by the crop, yet it demands a sufficient amount of plant food as do all other trees, and in this respect differs from them only in degree. The oil, which is the most valuable part of the fruit, is not formed from the ingredients in the soil, but for it to be developed to its maximum extent there is required a healthy development of the tree and the other parts of the fruit. The vegetative functions of the tree must be healthy and active, and this can only be brought about by the presence of abundance of readily available potash, nitrogen, and phosphoric acid.

A full grown olive orchard may be considered as removing from the soil the following ingredients per acre for a crop of 2200 lbs. of fruit leaves, 4400 lbs. and wood 11,000 lbs.

Potash (fruit) 18.81, (leaves) 58.05, (wood) 24.46; phosphoric acid (fruit) 2.59, (leaves) 20.08, (wood) 14.86; nitrogen, (fruit) 12.86, (leaves) 69.90, (wood) 117.69.

It will be seen that in the fruit alone there is the heaviest draught of potash and on the soils on which so many of these orchards are planted it is this element that is likely to be lacking. While in some soils of California potash may be sufficiently present in these particular cases this element is one which should be given the most careful attention.

To increase the nitrogen content and improve the moisture conditions the practice of green manuring with a leguminous crop is to be highly recommended in these orchards. For this the vetch, lupines or the Canadian field pea can be used successfully, and the mineral ingredients alone supplied for direct fertilization. Further the pomace after the extraction of the oil makes a valuable fertilizing material, for the addition of organic matter to the soil. The phosphoric acid may be applied either in the shape of basic slag or bone superphosphate. and the potash either in the form of sulfate or muriate of potash.

A general formula for use on these orchards may well be made up about as follows:

Nitrate of Soda.....	300 lbs.
Superphosphate.....	500 lbs.
Muriate of Potash....	125 lbs.

The above quantity to be applied to one acre of ground. This fertilizer may be applied broadcast in the fall and thoroughly worked into the soil. If it be in the northern part of the State, it may be well to apply only a portion of the nitrate in the fall and to add the balance in a spring application to avoid any possibility of loss from leaching during the winter months. In the southern part of the State there is not much danger. As to the other ingredients, there is practically no danger of loss as the mineral elements become fixed in the soil in such a way as to prevent leaching, but so they will still be available for the use of the plant.

With these orchards planted in such untoward places there is no other way in which their fruiting can be maintained to a profitable point except by heavy dressings of commercial fertilizers. Unless the farmer is prepared to feed these trees liberally they might as well be destroyed, as there is little hope for their being more than a constant load to carry. Under the conditions under which they are growing it is impossible to expect any profitable return.—George Wright

OLIVES TO BOOM.

The executive committee of the Sacramento Valley Development Association has decided that if it is desired by a considerable number of the representative olive growers and olive product manufacturers of the Sacramento Valley a meeting of those interested in the olive industry will be called at some time in the near future to discuss the needs of the olive men of this part of the State.

The Sacramento Valley is the great olive producing region of California, and it is believed that this fruit properly handled will have a great future, particularly the olive pickling industry. At present the crop is principally handled in small establishments and some growers have expressed a desire to see the olive men of the whole valley get together and consider the situation with a possible view to creating an organization to handle the crop in a large way.

If farmers and orchardists would pick off all imperfect fruit, it would be better for the trees and better for their pockets when fruit is marketed. If only No. 1 fruit was sold the market would never be glutted. All No. 2 apples should be dried or made into cider.

TWO SOURCES OF OUR WEALTH.

Fresh Deciduous Fruits. The shipment of deciduous fruits in a fresh state by carload lots from California during 1905 will approximate 8000 cars, of which 6376 cars have gone forward to date, leaving about 1750 cars of apples and pears yet to be shipped. This total is the largest ever recorded and exceeds last year's shipments by over 2000 cars. Prices this year (considering all varieties of all kinds of fruit) have probably exceeded those of any other season. California fruit growers will receive more than $5,750,000 for this output, which does not include canned or dried fruits. About 250 cars were also shipped by express in small lolts during the season.

The Wine Industry. Callifornia will this year contribute between 70 and 75 per cent of alll the wine legitimately produced from grapes in the United States. The cost value of this vintage will be about $7,500,000, calculating the grapes at a paying price to the vineyardists, cooperage not included. The selling value will be approximately $10,000,000, including cooperage. More than 20,000,000 gallons of wine and brandy will be shipped from California this year.

LIME, SULPHUR AND SALT SPRAY.

Editor Cultivator: (1) In the last number of the Cultivator I noticed a formula of lime, sulphur and salt for spraying deciduous trees. Can this mixture be prepared fast enough to keep a power spraying machine steadily running, the machine using from 1000 to 1200 gallons per day?

(2) Which of the two—the lime, sulphur and salt formula, or the bordeau mixture—is the better for spraying apricot trees for shot hole fungus, etc?

(3) In the directions given in the University bulletins for using the bordeau mixture, it prescribes the use of a wooden tank. Will an iron tank do as well by using a little more blue stone, and how much?—J. T. Santa Paula.

(1) The mixture has to boil fast for one and a half hours; so that you may figure how much tank and barrel room you will need. (2) Bordeaux, the other is not a fungicide. (3) Do not use iron, get a lot of barrels or tank of wood.

There are a few points about Bordeaux not generally set forth in directions for preparation and use. Suspend your blue stone in a sack near the surface—it will go to the bottom fast enough—if you put it in the bottom of barrel you will have a hard job stirring it up. For best results, two should mix—one pouring the lime and the other the blue stone into a third barrel at **the same time.**—not first a pail of one and then of the other. The lime should go through a strainer.

Chickens and berries do not go well together. They soon get together all right, but for profit it is better to combine small fruit and gardening.

WANTED.

A subscriber writes the Cultivator asking where he can purchase some Lady Thompson Strawberry plants. Who has them?

Another writes asking regarding the Black Bishop grape. This is a new one to us. Can any subscriber inform us where to get cuttings?

IT'S PENNY WISE

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow St., Los Angeles.

RANCH FOR SALE
Thir een acres Walnuts and Fruits. Good Improvements. Cheap wa er and plenty
D. F. Conant, Rivera, Cal.

RHODES DOUBLE CUT PRUNING SHEAR

Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.
RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

Berry Plants and Grafted Walnuts
Grafted Walnuts on both the Native Black and English Walnut Roots Also Santa Barbara Softshell Seedlings. Crandall Blackberry, Brandywine Strawberry and Loganberry Plants. Prices on application.
Toluca Nursery, G. Toselli, Prop., Toluca, Cal.

THE VERNON NURSERY
4524 Central Avenue Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL, Prop.

VINES Rooted Vines, all varieties, on their own or resistant roots.
Minnewawa Vineyard, Fresno, Cal.

BLUE GUMS
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity.
Geo. B. Warner, Santa Ana, Cal.

TREES
ORANGE, OLIVE AND ALL OTHERS
Place orders now for delivery in time for season 1906.
Calimyrna Fig
[Genuine Smyrna Fig of Commerce]
Our greatest specialty, Wonderfully Successful. The only fig fit for commercial purposes. Our Calimyrnas are guaranteed true to name and bear our seal
Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c. postage.
Fancher Creek Nurseries, Inc.
Paid-up Capital $200,000.00
Geo. C. Roeding, Pres. & Gen'l Mgr.
FRESNO, CALIFORNIA.
Growers of Trees and Vines of all sorts

CHICO NURSERY CO.
Our Specialties:
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS
Complete Line of
FRUIT TREES
and
ORNAMENTALS
Agents Wanted
Third and Walnut, CHICO, CAL.

GOOD ROADS.

By Professor A. J. Cook.

Berlin, Germany, Oct. 21.

If there is any one thing that aids a country more than aught else it is good roads. When we at Claremont decided to raise from $1000 to $1500 annually for our roads, on condition that the Supervisors appropriate as much more, we were indeed wise. We rejoice in our good roads, and if I except Azusa, I know of no place in our section that is better provided with roads than are we.

The past month I have travelled not a little over the roads of England, Ireland, Scotland, France and Ger many. The thing that has pleased me most of all is the perfection of the roads, especially those of England. Everywhere that I have been and that has been twice through the country, from north to south, once on the east side and once on the west. The roads have been "things of beauty" and most truly "a joy fovever." While one must be charmed with the landscape of old England, in its entirety, for in neatness and finish it is incomparably fine. Yet to me the roads, or highways, possess a charm that is indescribable. All my life will be richer for the pleasurable memories that abide, of the wondrous drives in the lake region of England. The roads are not only perfect in themselves, as they are all composed of McAdam finish or crushed rock, and are kept in absolute repair, but they are never in straight lines, but always curve gracefully, with such gentle curves that one is never vexed by the thought that he is being pushed from his way or is forced to go farther than he ought to go. The moss grown stone wall or beautiful green hedge rows which invariably limits the roadway, especially in the sections of England and Scotland, that I most admired, are also exceedingly attractive.

The roads in Europe are also much more narrow than in our country. I remember once at an Institute in Redlands. Mr. Albert K. Smiley gave an admirable talk on methods to improve our roads, and highways. He urged that we make our roads more narrow and then keep them in better condition. I think Mr. Smiley must have had a picture of these English roads in his mind. They are often so narrow that the drivers of the coaches must be cautious or there will be collisions. Often the space is nearly consumed by the two passing coaches. Yet in all our riding and it has not been a little, we never saw an accident, and were told by the drivers that collisions were very rare. When one is conscious of the necessity, then caution is more certain. Another thing we have observed with sincere admiration. I refer to the clean roadsides. I am sure that more time should be spent in keeping our road sides clean from the ugly weeds that so generally disfigure our California landscapes. These weeds furnish innumerable other weeds that are a perpetual menace to all adjacent fields and lawns and mar the beauty of our country most seriously. It would be a tremendous improvement could they be exterminated. Would not more than anything else the narrowing of our roads, help to remove and keep weedless the road sides? The roads of England are very beautiful in this regard. There are no weeds and wherever the width permits there is a beautiful grassy strip for a border, that adds materially to the charming effect.

As I have thought of the marvellously beautiful and well-kept roads of England, I have wished that some Rockefeller or Carnegie—some man with millions—might set an example by a most generous donation that should look to landscaping and improving the roads of some state or possibly county, along lines suggested by the English roads. Surely the great benefit from such an object lesson would be as leaven and soon we might hope to have our country like the England of today, glorious in its beauty.

The perfect condition of the English roads is due, largely, to the fact that they are constantly watched and cared for. Here truly the "stitch in time" saves more than nine. Everywhere in England and the same is true in all the countries we have visited in Europe, one sees little mounds of pounded or crushed stone beside the road, at very frequent intervals. This material is ready to give the timely stitch. This makes needed repairs more easy, and is more likely to insure ready application of the "stitch in time."

We only need this European method of a timely ever-ready heap of gravel, when, I am sure, we shall have made a good advance towards copying the European excellence.

* * *

Save the Manure.—One thing that has interested me greatly since I came to Europe, is the vast amount of stable fertilizer that is used much as we prize barn-yard manure in our newer country, with its soil, as yet almost in a state of virgin richness. Yet we are far behind Europe in our appreciation of this home-made fertilizer. Even in the older sections of the United States stable fertilizer is greatly prized. Prof. Powell says that with very liberal use of fertilizers his father's apple orchard has approximated to a condition of annual crops. The off years have been eliminated Mr. Powell to hasten matters used cover crops. Here in Europe the roads are all swept that no jot of the precious substance may be lost. In some sections, even out in the country, people are glad to sweep the streets for the manure that may be secured, and in one section near the home of the late Mr. Gladstone, farmers even pay for the privilege of sweeping the streets. It must be remembered, however, that the hard narrow streets can be very easily swept. As our country gets older, we will prize more highly everything that adds to the strength and fertility of our soils. As we progress we shall show our advancement possibly most by our good roads, and as the roads are made hard it will be very easy to sweep them and save the fertilizers. If at the same time we narrow them down to the standpoint of utility, and keep them weed-free and possibly green with alfalfa, we shall practice an economy that will be wise as it is absolutely necessary, to our less fortunate friends of the "Old World."

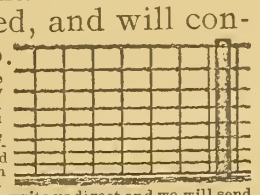
ATTRACTIONS OF FLOWERS FOR BEES.

Some of our scientific men have raised a peculiar question when they seek to discover whether it is the color or the scent of flowers that attracts the bees and other insects to them. The result of these investigations is that color is what draws them. We may not see anything of practical benefit in this discovery, but we can not blame our scientists for pursuing such investigations. The first step in all such matters is to learn the facts; then the practical application of these discoveries. The first discoveries pertaining to electricity were carried on to satisfy curiosity. No scientists ever dreamed in those days of the extensive practical application of their discoveries. The expansive power of steam was discovered by the idle curiosity of a boy. We should bid speed to all scientific discoveries, regardless of what may be the practical application to which they may be turned. The scientist with his discovery of facts must precede the inventor, who could do nothing but for the discoveries going before him. But aside from this relation of the scientist to the inventor we can see the hand of the Divine Ruler in giving color to flowers. This guides the bee and other insects to them and the benefit is not alone in the honey they gather and store up for their own use and that of man, but such insects perform an important work in the pollenation of fruits. In some cases without this work of insects no fruit would be raised at all and in most cases great benefit comes to fruit by this cross pollenation.

Ambition is torment enough for an enemy; for it affords as much discontentment in enjoying as in want, making men like poisoned rats, which, when they have tasted of their bane, cannot rest till they die.—Bishop Hall.

AMERICAN FENCE TALKS
By the Makers

There are many fences on the market. Some tell of their wonderfully hard wire; others speak of new form of construction that make all other forms look ancient and worthless. But through all this it remains a fact that more miles of American fence are in use than of all others combined, and will continue so.



American fence is for sale by the dealer in your town. You can find it there, examine the different styles and make a selection to suit your requirements. Or, write us direct and we will send you a catalogue and tell you where you can get the fence.

THE AMERICAN STEEL & WIRE CO.
CHICAGO NEW YORK
DENVER SAN FRANCISCO

THE MARK AND THE MOTTO
"The Recollection of Quality Remains Long After The Price is Forgotten"
Trade Mark Registered.

E.C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK MO.

The difference in *worth* between a good tool and a poor one is always more than the difference in *cost*. Counting the time wasted in constant sharpening and the short life of inferior tools, a poor tool is really more expensive than a good one.

Whenever you need a tool of any kind, it will pay you to buy the Keen Kutter brand, and have the best. All kinds of tools are made under this name, and every kind represents the very highest quality of material, workmanship and finish.

KEEN KUTTER

tools have been the standard of America for 36 years and are the only complete line of tools ever to receive an award at a great exposition—the Keen Kutter line being awarded the Grand Prize at the St. Louis Fair.

Following are some of the kinds of tools made under the Keen Kutter Brand: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Trowels, Pruning Shears, Tinners' Snips, Scissors, Eye Hoes, Shears, Hair Clippers, Horse Shears, Razors, etc., and knives of all kinds.

If your dealer does not keep Keen Kutter Tools write us and learn where to get them. Send for Tool Booklet.

SIMMONS HARDWARE COMPANY,
St. Louis, U. S. A.
298 Broadway, New York.

California Horticulturally

By John Isaac, Sacramento, Cal.

NEW PROCESS FRUIT SHIPPING.

It is said that necessity is the mother of invention, and the necessity for some better methods of fruit packing has not been more forcibly impressed upon any one than upon Mr. A. R. Sprague, manager of the California Fresh Fruit Exchange. Fruit for shipment is gathered during the hottest part of the summer season. Of course, it is heat that ripens and ripening itself generates heat, which long continued becomes decomposition. Stopping this heating delays decomposition, hence cold storage and refrigerator cars. Now when fruit is first packed in cars direct from the orchard or vineyard it carries all its warmth with it and the car itself is heated, a very marked rise in temperature being noted as soon as the car is filled with fruit. With the ordinary ice chambers in the cars this temperature is not greatly reduced for 24 to 48 hours and in the meantime the fruit is advancing so far toward the state of decomposition. Mr. Sprague undertook the problem of reducing the temperature in a short time, stopping the ripening process and so getting it to market in better condition for keeping. To this end he has invented a process which he has named the Cyclone method. In this method a large pipe is attached to the ice chest in the car, which is hermetically sealed when packed and the air is alternately exhausted and replaced by a large blower or fan, the hot air being discharged in the open and then being replaced by the cold air which is passed through the ice chambers. The writer recently examined this operation with a carload of grapes which showed a temperature of 73 degrees when the car was first closed and which was reduced to 43 degrees in a little over half an hour by this process. When the temperature has been sufficiently reduced the cars are sealed and the ice in the chests will keep the temperature down until the fruit reaches its destination. A number of experiments were made before the success was attained, but the machine has been in successful operation since August and returns received from the East show that it is a marked success.

* * *

HEAVY INCREASE IN FRUIT SHIPMENTS.

In the beginning of the fresh fruit shipping season, there was great complaint as to the smallness of the crop and predictions were made that shipments this season would be very light. In these columns I predicted that the shortage was not real, and that shipments would be as heavy or heavier than usual, and the result has borne out this prediction. California is a very large State, and each year in some parts of it crops will be light, and those who are suffering will be heard from, but when we come to figure up results for the whole State they always reach a good average. It has been so the present season. In the principal peach sections the crop was poor,, in the pear districts great damage has been done by the pear blight, yet in spite of these drawbacks there have been nearly 2,000 more cars of fresh fruit shipped out of Northern California this season than last, the figures up to the first of November being 7,457 cars for the present season against 5,626 for last.

This heavy increase in shipments is due to the greater demand in the Eastern market, very much better prices paid to the grower and the somewhat lessened pack of dried and canned fruits. Grape shipments are still going forward and it is likely that the full 2,000 cars increase will yet be made before the season is ended. Prices, too, have been so much better than in previous seasons that the fresh fruit growers are prosperous in spite of the gloomy outlook at the beginning of the season.

* * *

WORK ON THE PEAR BLIGHT.

Prof. M. B. Waite, Pathologist in charge of Orchard Diseases for the Department of Agriculture, who has taken charge of the pear blight campaign in California, will arrive the latter part of the present month to commence the winter work. Mr. P. J. O'Gara, his assistant, was to have accompanied him, but that gentleman has been incapacitated by sickness, and Prof. W. M. Scott will take charge of the field work here this winter. Prof. Scott was for five years State entomologist and pathologist of Georgia, and is, next to Prof. Waite, the best equipped man for this line of work in America.

* * *

MONEY IN TOKAY GRAPES.

There has been a perfect boom in the planting of Tokay grapes in Sacramento and northern San Joaquin counties the past two years, and the new acreage will run well into four figures. It has been demonstrated that this variety of grape does exceptionally well in this locality, attaining large size with very large clusters and of high color. The Tokay is a very attractive grape, a good seller and a good shipper and has brought unusually good prices in the Eastern market this year, growers having received from $250 to $700 gross per acre for their grapes this season which, after paying expenses, still leaves a very good balance. It is not likely that this business will soon be overdone as the Tokay does not give its best returns from all soils or locations and there is still room for expansion as the eastern market for this fruit is a growing one. Other table grapes have also given splendid returns to their growers this year and so far over 1600 carloads of this fruit have been shipped to the Eastern consumers. The principal section devoted to table grapes and from which the heaviest shipments are now being made is in the vicinity of Lodi, in San Joaquin county, and the money coming into that section for table grapes is giving it an air of prosperity unsurpassed by any section of the State.

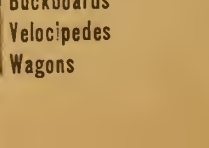
* * *

FEATURES OF THE NEXT FRUIT GROWERS' CONVENTION.

There will be a very attractive programme presented at the next Fruit Growers' Convention, which opens at Santa Rosa on the 5th of December. Among the features will be an address by Governor Pardee, who has always been a strong friend of the fruit men; an address by Prof. M. B. Waite on the pear blight, illustrated with lantern slides, followed by an address by Prof. Ralph E. Smith on the work done against this disease in California during the past summer. Prof. David Starr Jordan, of Stanford University, and Benjamin Ide Wheeler of Berkeley, will both address the assembled fruit growers. It is expected that George Compere will have returned to California by the time the convention meets and will give some account of his adventures in searching for beneficial insects. Luther Burbank will also take part and Prof. Wickson will tell us about Burbank and his work. Efforts are being made to get Prof. Vernon H. Kellogg, of Stanford, to give an illustrated lecture on insects. There will be a County Horticulturists' day, and for entertainment, the ladies of Santa Rosa will give a social evening and the electric railway companies will give excursions over their lines. Altogether this convention promises to be at once the most interesting and profitable of all that have been held in the past thirty years.

STRAWBERRY PLANTS
(TROPICO BEAUTY)
The very best Brandywine stock at low prices for sale by the grower,
D. Griswold, Box 25, Tropico, Cal.

BRANDYWINE "A 1" STRAWBERRIES



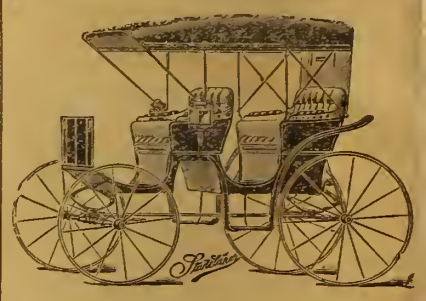
250,000
Strong Growing, Thrifty Plants for sale Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.
Frank P. Baldosser,
Covina, Cal.

"GO TO GARDENA"
For Sale
$3500—5 acres, 4 in berries, balance in chicken corrals, house, barn, fruit trees, lawn and flowers, cheap irrigating water. Income over $2000 this year.
$2300—5 acres, poultry ranch; house, barn and corrals, alfalfa, fruit trees, 6 h. p. pumping plant, water piped to buildings, horse, 2 cows, farm to lease, etc., ¾ mile from car line. Be sure to see this before you buy.
$1500—4 acres in fine alfalfa, new 5-room cottage, cheap irrigating water, good sandy loam soil.
A number of large tracts for subdivision.
W. M. Gray, Gardena, Cal.

THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

Thompson's Seedless Grapes
Rooted Vines, $4.00 per hundred. Write
E. E. GERRY, SANTA PAULA, CAL.

When You Buy
A BUGGY RUNABOUT PHAETON or FARM WAGON
Buy the Best



Studebaker Vehicles
Are leaders. They are constructed throughout of the best material, by skilled workmen, in the largest vehicle factory in the world. There is a great deal of satisfaction in owning a
Studebaker.
They last longer and require fewer repairs than any other make.
For ECONOMY DURABILITY STRENGTH and EASE OF RUNNING
You will find the Studebaker far in the lead. Those contemplating a purchase should send for our catalogue or call and see us. We are local agents and would be glad to show you a complete line of vehicles and harness.
Newell Mathews Co.
200-202 No. Los Angeles St.
Los Angeles, California

Substantial Toys for Girls and Boys
AT HOEGEE'S
LOS ANGELES

Cyclone Pedal Wagons
Children's Autos
Auto Pedal Engines
Flying Dutchmen
Girls' Tricycles
Buckboards
Velocipedes
Wagons

As we grow old in business, we grow young at heart, and each Christmas time finds us better prepared than ever to meet the demands of our youthful friends for newer, more practical and stronger toys. This year it is the best to be had, and enough, we hope, to go around. If you cannot pay us a visit, write us about any article desired, and we will tell you all about it.
Act quick, time is short.
TENTS, GUNS IRRIGATING HOSE KHAKI CLOTHING
The Wm. H. Hoegee Co., Inc.
Phones—Ex. 7 138-142 So. Main St.

CITRUS FRUITS

By C. A. Day, Pasadena

INSECT PESTS ON LEMONS.

The lemon tree is subject to the attacks of the red and black scales, and on account of the vigor and free flow of sap the lemon tree develops and supports a large quantity of scale and with the black scale the attendant fungus. The scale are not only a severe draft on the vitality of the tree, but the red scale when in sufficient numbers render a percentage of the fruit unmerchantable or injures the appearance of the fruit, even when removed or destroyed. The black scale is not only a draft on the tree, diminishing the quantity and impairing the quality of the fruit, but by the attendant smut makes washing necessary. One grower reports his bill for washing to have been $500 for a single year. When we consider, with black scale, the reduction in size of crop, the cost of washing and the attendant delay, and when we consider the draft on the tree from red scale and the injury and waste of fruit, it would seem a matter of economy to keep the tree free from scale insects.

* * *

Lemon Rot.—There has been considerable loss in the past year from lemon rot. This disease of the lemon is infectious and the careless mixing of a few diseased lemons with healthy ones has resulted in the infection of the healthy fruit.

Blue vitriol is used in the washing water to disinfect and destroy germs of brown rat.

GREAT YEAR FOR LEMONS.

The magnificent returns which have resulted from marketing this year's crop of lemons have been spoken of in the Cultivator and especially the following item which is exceedingly interesting. But as it has never been given before in detail at all, we mention again more fully.

The San Fernando valley is the producer of the lemons in question and, to be more particular, they were grown upon the ranch of Mr. C. D. Hubbard. Mr. Hubbard has something like six hundred trees and they will bring him this year most magnificent compensation for the years of waiting until the lemons should prove of some profit. The particular car in question which we have mentioned was No. 18186, F. C. E., which was sold on September 2d. The car contained two hundred and twenty-nine boxes of extra choice, eighty-three boxes standard, three hundred and twelve boxes all told. Quite a number were discounted because of off sizes, some to the extent of one dollar per box, others to the extent of fifty cents per box, but, with all the discounts, the car netted f. o. b. San Fernando, $2252.17. After the cost of packing, boxes, etc., there is still a handsome return to the grower.

Not only this car, but Mr. Hubbard shows us sales for other cars, one of which sold for $1440.60 and another for $1407.97 which, in an ordinary year, would look good to any lemon grower.

These figures are not given with the expectation of booming the business or doing other than mentioning this one fact that the stayer in any business is the one who is reasonably sure of winning out. Had Mr. Hubbard gotten discouraged a couple of years ago, when lemons were very generally being cut off and rebudded to oranges, he would have missed the magnificent returns of this year's output.

BETTER PRICES FOR ORANGE TREES.

Mr. Teague of the San Dimas nurseries and many other nurserymen, have informed us during the past few weeks that the scarcity of A No. 1 orange trees this season, together with the fair prices which prevailed for fruit during the season will cause a materially higher price than prevailed last year. Mr. Teague also told us that he already had received numerous orders for trees for the coming season's planting, one of these being from South Africa but that, of course, affects the local trade in no way. But the local demand will be much more keen, especially for Valencias. This leads to the conclusion that the careful planter will be looking eagerly for first-class trees early in the season. The writer was in Mr. Teague's nursery only a few days ago and saw trees which certainly are the equal of any which he has ever turned out, which is saying much, for Teague's nursery has a reputation which extends farther than the boundaries of this State and even farther than the boundaries of this country.

USES FOR CULL ORANGES.

Experienced orange growers estimate that for every carload of oranges shipped one ton of culls remain on the ground, which means 25,000 to 30,000 tons of cull oranges a year, of which no use whatever is made except to plow them under and let them produce whatever humus they will. If these could be sold for $5 per ton delivered there would be a little for the grower and a good deal for labor. The buyer, also, would have employment for capital and labor in making them into commercial products. For many years there has been talk in the southern counties about utilizing these culls and some attempts have been made to do so, with little success. The trouble is not in the production of excellent products, but in marketing them at a profit. A good deal of use is made of them in Europe, the British and British colonies being especially large consumers, but the British taste is decidedly for the bitter flavor, and without the bitter orange it would be useless to attempt to compete in European and colonial markets. There is some demand for dried and candied orange peel, but it is easily satisfied. Nevertheless it is not difficult to prepare many excellent products from cull oranges and lemons and mercantile ability and persistence would certainly make a reliable market for them in the United States, where England marmalades have a very limited sale and the public has not acquired a taste for the bitter orange, which, however, we could readily produce ourselves in sufficient quantity for flavoring purposes.

It has been estimated that it would require 60,000 boxes of oranges per day, or 2,219,000,000 boxes per year to supply the demand of the 90,000,000 people of the United States and the several millions in Canada.

CLIMATE AND CROP REPORT

U. S. Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California section, for the week ending Monday, Nov. 6.

Clear and warm weather continued most of the week, with heavy fogs in the central coast districts. High northerly winds prevailed at the close of the week and heavy rains fell in Southern California on Sunday. The precipitation at San Diego for 24 hours was 1.68 inches and at Los Angeles one inch.

Oranges are somewhat backward in Southern California, but picking has commenced in some places. In the Porterville and Oroville districts orange harvest is in progress and shipments are being made to local and eastern markets. The outlook is good for an excellent crop. Orange shipments from Southern California for the season just closed amounted to 30,000 carloads. A good crop of olives is being harvested. The apple crop is nearly all gathered and is one of the best ever grown in the State. Grape harvest, raisin making and fruit drying are practically completed and wine making is nearly finished. Taken as a whole, the yield of deciduous fruits and grapes has been very satisfactory. Walnut picking and shipping continue; the nuts are of good quality but the yield is less than average in most places.

The soil has become so dry and hard in some sections that plowing and seeding have been suspended, but farm work still continues in other sections. Rain is badly needed in the central and northern districts, both for softening the soil and to start pasturage, which is rapidly failing. The rain in Southern California was of immense benefit to orchards, ranches and pasturage. The hay and grain crops are under cover and harvest is about completed on corn, beans, potatoes and sugar beets.

VALENCIA LATE

And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Gendora, Riverside or Redlands, as desired. Address

Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

250,000 Trees

We have the largest Citrus Nurseries in the world. We can talk quality and make a price. We can give you strong, healthy stock, root and branch. Write us before you spend a dollar for trees—you will not regret it. Send for our "Yea and Nay of Citrus Culture"—free.

Sweet, Sour, Pomelo and Citrus Trifoliata Seed Bed Plants.

San Dimas Citrus Nurseries

R. M. TEAGUE, Prop. SAN DIMAS CAL.

THE OLD ESTABLISHED

WOODBRIDGE FERTILIZERS

ARE RELIABLE

THE WOODBRIDGE CHEMICAL WORKS

318 East First St.
Los Angeles, Cal.

South Pasadena San Bernardino

DRIED GROUND TANKAGE

THE BEST AND MOST ECONOMICAL FERTILIZER

ANALYSIS { 10½ per cent Ammonia
18 per cent Bone Phosphate

WRITE US FOR PRICES AND PARTICULARS

Western Meat Company - - San Francisco

SPRAYING A LARGE ACREAGE

Requires the very best hand pumps, or what is still more economical, a Power Sprayer. More economical because it costs but forty five cents for three days labor and the resulting work is thoroughly done. The grower equipped with a BEAN POWER SPRAYER has little to fear in the way of insect pests or fungus diseases. You know that it often means the saving of a large part of the crop to be able to get over your orchard as quickly and thoroughly, as you can

WITH A BEAN POWER SPRAYER

They are powerful but simple, and no previous experience of any kind is required for operating them. The perfect agitation, the high, even pressure, and the surprisingly large amount of work that can be accomplished daily at small expense are among the reasons for their constantly increasing sale.

Then, too, the gasoline engine can be removed in a few moments, and is always found handy for other purposes, You will agree with all who have seen them that the use of BEAN POWER SPRAYERS

RESULTS IN A CLEAN CROP AT SMALL EXPENSE

Just now, before the rush season comes on, we have a special offer which will interest you. Write today for our free illustrated catalogue No. 18, which explains all the advantages of BEAN POWER SPRAYERS. State acreage and kind of fruit (Catalogue No. 16 describes hand pumps.) Address

Bean Spray Pump Co., 161 W. Santa Clara St., San Jose, Cal.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

EREMURUS.

As a plant for the herbaceous border, E. robustus has no competitor in its own class, and it has not been widely grown because there has been some uncertainty in getting roots of flowering size. It is becoming better known, however, and has friends wherever it is seen. The root is hardy, its flower spike in the early spring, pushing into growth early in the season. There are several species in cultivation (natives of India) all with pale pink or white flowers, and all growing to a good height—six to ten feet, according to species and vigor. The Eremurus is to the early border what the popular Hollyhock is to the later display and should be equally valued.

SHIRLEY POPPIES.

Pick as soon as mature. If allowed to form seed the plant will have achieved the purpose of its existence and make no further worthy effort. If seed of particular plants is desired, select the best blossoms of a plant and cut off the rest. The Shirley in a distinct species. The Nudicaule is classed by seedsmen as the "Iceland," and is in single and double; is a hardy perennial. They are best sown where they are to remain.

PRETTY DECORATIONS.

At a recent dinner a flat decoration was used. It was a large star of flame-colored gladioli. These low flower centerpieces bid fair to be popular. Another form they have taken is the pond decorations. This is a square, long or oval glass dish of good proportions. It is filled with water and the edges are concealed by strips of bark. In this dish sprays of aquatic grass and umbrella palm are grouped with not too many pink, yellow and white water lilies. This, of course, must be used for a day function, as the lilies will close at night. A similar evening decoration could be made of asters and Harrisii lilies.

PLANT FERTILIZER.

One pound nitrate of soda; 1 pound sulphate of ammonia; 1½ pounds sulphate of potash.

Directions: Mix well and keep in a tight glass jar. For a small collection one-quarter of the above would be sufficient for a year. Use one tablespoonful to one gallon of water. Apply once a week for a month, then once every ten days until the plant indicates the resting period is at hand.

A NEW LILY.

At one of the shows of an Eastern Horticultural Society, last year, there was exhibited a new variety of lily, to which a gold medal was awarded. We do not learn that a distinct name has been given, except that of Farquhar's Christmas Lily. It was discovered by one of the above-named firm in the island of Bengnet. It is supposed to be a form of Lilium Philippinense, hitherto undiscovered though the original species was introduced in the early seventies. The plants from which the flowers were cut were grown from very small bulbs, planted in the greenhouse in May. The flowers, which are white and of the longiflorum type, have an average length of twelve inches.

STONE CROPS.

The family of sedums, usually known as "stone crops" contains some valuable, interesting and highly ornamental plants. They delight in the hot sun and are therefore particularly adapted to Californian conditions. Their culture is a very simple matter as they require but little care, little moisture or plant food, so that everyone may with safety assume the responsibility for caring for these interesting plants.

THE SWORD FERNS.

From the Boston Fern we have numerous varieties of horticultural value. The Pierson Fern is one of these and it makes a fine show with its much-divided fronds, long and drooping as those of the Boston fern. Mr. Pierson now announces another variety from the Pierson fern which he calls Tarrytown. Of this he says it is as different from the Pierson fern as that is from the Boston. The small side pinnae are again subdivided, changing the entire character of the fronds, which measure less than half the length and about twice the breadth of the fronds of the Pierson fern. The fronds also assume an entirely different form, the side pinnae standing on edge ratther than flat, as is usual, making both sides of the frond equally beautiful—entirely different from every other fern. The plant is very dwarf, only about half the height of the Pierson fern, and of very much more compact habit.

A variety which has been sent out under the name, Nephrolepis Scotti, originated by John Scott, of Brooklyn, N. Y. He claims that it is the finest commercial fern ever introduced, and the most graceful and symmetrical Nephrolepis known. It makes three times as many fronds as the Boston fern in a given time.

The best of all, however, is the variety elegantissima, many fine plants of which were shown at the late flower shows in San Francisco and Los Angeles. This has more finely divided and more graceful and elegant fronds than any of the several fern section. At present it seems well nigh impossible that any further improvement can be made from variations of the Boston fern.

NEW QUARTERS.

Theo Payne, seedsman and nurseryman has moved into better and permanent quarters at 345 South Main street, where he expects to maintain the choicest lot of flower and vegetable seeds to be found in Southern California.

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN
HAS REMOVED TO
345 SOUTH MAIN STREET
WHERE IN LARGER PERMANENT QUARTERS HE WILL BE PLEASED TO SEE ALL HIS PATRONS

ACACIAS and EUCALYPTI
In variety. Also a large stock of
ROSES, PALMS,
ORNAMENTAL SHRUBS,
VINES, SHADE TREES, Etc
Write for free catalogue and give us a trial
Wholesale and Retail
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

OUR NEW SWEET PEA
Helen Pierce
A beautiful novelty discovered and introduced by us this year. It is light blue, mottled on white. This is the time to plant. Send us for a sealed package..... 25c
We have been extensive seed growers for many years and are now prepared to supply any one on the Pacific Coast with reliable Vegetable, Grass and Flower seeds at retail. Our fine illustrated catalogue mailed free about Dec. 1st. Write for it.
C. C. MORSE & CO., Seed Growers
815-817 SANSOME STREET SAN FRANCISCO, CAL.

LIKE HONEY DEW is the HIMALAYA BERRY
Coreless and rich, they literally melt in your mouth—You can have them in your garden at almost no cost

It's black, but not a blackberry. It's a new arrival, from the north slope of the Himalaya mountains. For many centuries the natives of mysterious Tibet have been making wine and cordial of them, and only the recent invasion by British troops of the "Roof of the World," as this quaint land is called, has brought this delightsome, luscious fruit to our civilization.

Enormous clusters of large-sized berries ripen all summer on this bush, making the Himalaya the most productive of any variety known. The flavor is sweet and of unusual richness. They have no core, and when ripe they literally melt in your mouth.

JELLS EASILY

For pies and jellies the Himalaya berry is a perfect success, being ahead of any similar fruit. It jells easily, and either fresh or cooked is good for the sick, being an excellent regulator and having tonic and medicinal properties of unusual virtue.

The severity of their native climate has made the berries hardy, and both the plant and the fruit will stand extremes of heat and cold better than will our domestic fruits.

WILL BE THE FAD

It will be hard for you to realize what a treat is a dish of these new berries. They will be all the fad after they get to be better known and enough are grown in the United States to supply the demand.

Now is the time to plant, and you will have a crop of berries next season. Three bushes will produce all the berries a family can eat.

We have a limited supply of pot-grown roots—hardy plants with lots of fibrous roots—not suckers, but well-grown, well-developed specimens. If you want to be the first in your neighborhood to have Himalaya berries, order now.

PRICE (Prepaid)—Per root, 50c; three for $1.00; per doz., $3.00.

Order now—the supply is limited. Use this coupon:

FILL OUT AND MAIL TO
CHAS. H. LILLY CO.
SEATTLE, WASH.

Enclosed is $.....(in money order, draft, 2c stamps) for which send me (prepaid).....HIMALAYA BERRY ROOTS.

Please send me (free postpaid)your Plant and Seed Catalog.

Name .....

Address .....

R-11

In the Vegetable Garden

VEGETABLE DISEASES.

The business of growing vegetables and melons, or truck farming as it is commonly called, is rapidly passing into the hands of American gardeners in this country. This means in the majority of cases permanent holdings and intensive farming. One of the natural concomitants of intensive farming is the accumulation of fungous spores and the insidious bacteria that are responsible for the various wilts and blights that prove so destructive both to the crops and also the anticipations of the growers. The past season has been one of widespread prevalence and virulence on the part of the various rusts, mildews and blights, and it is fair to assume that millions of spores have matured in the affected areas and are simply awaiting a favorable opportunity to commence reducing the profit on the next crop.

Any treatment looking to relief from the losses caused by these fungous foes of the gardeners must of a necessity be preventive. Once they have entered the tissues of the plant they are then beyond the reach of any remedy we may apply, and as a general thing when they become apparent to the unaided eye, they have already accomplished the destruction of the affected parts. Prevention consists of totally destroying the spores by fire, or by coating the young plants with a substance which, while harmless to the plant itself, burns off the tender, minute tip which emerges from the spore upon germination.

One of the better means of relief from these troubles—especially so in the case of ground that must be used again for the same purpose—is sanitary measures. The prompt destruction by fire of every particle of debris left of the vines after the crop is gathered, and the most opportune time to do this is now, before the first rains arrive. In the case of melon and tomato vines and asparagus tops, burn them broadcast as they lay; any attempt to rake or pile them up will dislodge myriads of spores which will find safe lodgment in the soil. What is needed is a quick fire that will sweep over the surface destroying the spores without unnecessarily heating the ground. This may be brought about by lightly covering with straw, or better still and perhaps as cheap, by spraying with distillate and firing in the middle of the day.

This treatment while not a panacea for these troubles is the first step towards obtaining practical immunity next season, and in addition will destroy large numbers of injurious insects hibernating in the trash.

—Fred'k Maskew.

GROWING ASPARAGUS ABROAD.

The method of raising asparagus in Germany is described in a report from our Consul at Mannheim. The industry he says, is of importance, especially in Baden, where the soil is a sandy loam. After thorough manuring of the land, the roots are planted at intervals of from 4 to 5 feet, in rows about the same distance apart. No crop is harvested for the first three or four years, and in the meantime the ground is well cultivated and fertilized, preferably with stable manure. During this period the ground is kept hilled up around the plants, and the shoots are cut back until a considerable bunch of strong roots forms at each hill, with fibers running in every direction. In the third or fourth year, early in the spring, the earth is hilled up around each bunch to a height of a foot or more, with a base a yard in diameter.

When the new shoots begin to appear, they are cut off from 5 to 8 inches below the surface. The shoots are entirely white except at the tops; they are tender and of fine flavor, though somewhat larger than in the United States, being one-half of an inch in diameter. About three pounds of shoots are taken from each mound. Replanting a field is thought advisable after the twelfth year, although many tracts have remained without replanting for twenty-five years. The products retail in the spring for 20 cents a round, dropping to 10 cents later in the season.

STRAWBERRY HISTORY.

The story of the origin and evolution of the garden strawberry forms a chapter in the history of economic plants which is of more than ordinary interest to American horticulturists. Although this fruit has been in cultivation nearly 250 years, its origin and history were obscure until within the last decade. Botanists passed the garden strawberry and left it without a name. Horticulturists contented themselves with giving the plant its generic name, Fragaria. During the early nineties Bailey interested himself in the history and development of many of the garden plants, among which he included the strawberry, and as a result of his studies the cultivated strawberry has been assigned to a well-recognized botanical speices, Fragaria Chiloensis.

The plant reached Europe about the year 1712, but attracted little attention and made little progress until about 1750 or 1760, when another berry, having a pleasant, pineapple-like aroma, found its way into Europe under the name of pine, or pine strawberry. This strain produced cultural varieties rapidly and soon gained a wide distribution, gradually replacing sorts previously in cultivation which had come from the scarlet class of North America, the parents of which were Fragaria Virviniana and the everbearing type, Fragaria vesca, which is native to Europe.

During early colonial days the wild strawberries of the field, F. Virginiana and F. Americana were abundant and furnished a much prized article of diet. The plants were transplanted to the garden and gave fruits of increased size, but only a few commercial varieties resulted. Hovey, who may be considered the father of the American strawberry industry, used these native plants along with imported plants of the pine type as the foundation of a number of crosses, which resulted in the production of two varieties, the Hovey and the Boston Pine. Owing to the loss of records the true parentage of these could never be determined. It was Mr. Hovey's opinion that the Hovey sprang from a cross of Mulberry and Keen's seedling, both of the Pine type. The Hovey did for the strawberry what the Cape grape did for viticulture. It formed the main nucleus for the development of commercial sorts, although the scarlet type was long held in high esteem. C. M. Hovey, who is here mentioned, was father of C. H. Hovey, the plantsman, of South Pasadena.

The garden strawberries of this country have come chiefly from the so-called Pine type of berries, which has been probed beyond question to have sprung from Fragaria Chiloensis, a plant originally brought to Europe from Chile, but which is now known to be native to the Western mountain regions of both North and South America. The first native strawberries to be brought under cultivation however, were those of eastern North America, which belong to the scarlet class, the species being known to botanists as Fragaria Virginiana. This class, as has been stated, has contributed only sparingly to our present variety list. The wild berry of Europe, which has always been held in more or less esteem because of its ever-bearing tendencies, has likewise contributed only meagerly to the garden sorts of its native countries and none whatever to the American list. The burden of the industry rests upon the Chilean plant.

The garden strawberry is an American product. It adapts itself to a wider range of latitude and to greater extremes in environment than any other cultivated fruit. It is universally liked and is cosmopolitan in its adaptions.

SOME PICKLES.

Irwindale is becoming a great pickle producing center. We saw many tons of cucumbers delivered to the pickle works and the promise is for more of them another year. This years price has been 75 cents per hundred for the size of 1000 cucumbers to the 100 pounds; $1.25 per hundred for the 2000 size; $1.75 for 3000 size and $2.25 for the 4000 size.

Mr. F. C. McCandless informs us that at those prices fair returns can be had from the land.

A subscriber, Mr. C. F. Lee of Pasadena gives the following sure method of keeping seed beans from weevil: Moisten cloth with carbolic acid and lay on top of beans in glass jar which is sealed.

CRIMSON WINTER RHUBARB Selected seed $12 per pound or $1.00 per oz. J. DENT, R. D. NO. 1, VENTURA, CAL.

Strawberry Plants

200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address *F. S. Lee, Pasadena, Cal. Phone Main 922*

LAXTON'S NOBLE STRAWBERRY PLANTS
400,000 First-Class Plants. Prices on application
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

Greatest National Bank West of Denver and South of San Francisco

First National Bank

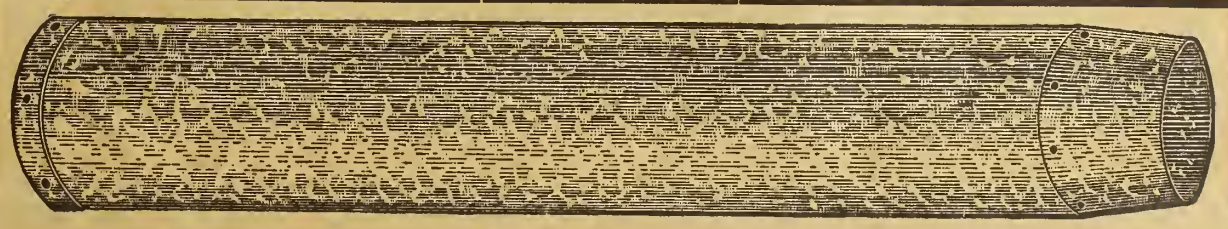
United States Depository for Government Funds

CAPITAL, SURPLUS AND UNDIVIDED PROFITS, OVER $4,000,000.
DEPOSITS, $13,500,000. TOTAL RESOURCES, $18,000,000.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

PRESIDENT—J. M. ELLIOTT.
VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS.
CASHIER—W. T. S. HAMMOND.

First National Bank
Los Angeles, California



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The *only* way to *Irrigate Alfalfa.* *Cheaper* than *Flumes.* This is only *one* of our *specialties.* We make *Riveted Water Pipe* in lengths of *Ten Feet* from *Single Sheets.* Let us *prove* to you that we make *Pipe* and *Tanks Right.* WRITE FOR CATALOGUE.

TALLERDAY MANUFACTURING CO.
PHONE: ALHAMBRA 301 DOLGEVILLE, CAL., the Manufacturing Suburb of Los Angeles
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal.

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line, $1.12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1¼ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to 10	Lines	15	cents per line
11 " 50	"	14	" " "
51 " 100	"	13	" " "
101 " 500	"	12	" " "
501 " 1000	"	11	" " "
1001 " 1500	"	10	" " "
1501 " 2000	"	09	" " "

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 10, 1905

CONTENTS.

	Page.
Trees in the Landscape	435
Fertilizers For Olives	436
Good Roads	437
New Fruit Shipping	438
Insects on Lemons	439
Sword Ferns	440
Vegetable Diseases	441
Editorial	442
Coast News Notes	443
Feeding vs. Breeding	444
Dairying a Science	445
Holsteius to the Front	446
Biddy and the Incubator	447
Poultry Questions	448
Pure-bred Poultry Pays	449
Water in the Soil	450
Queries and Suggestions	451
Household	452-3
Markets	454-5

CURRENT EVENTS.

Orange Harvest Prospects.—Unless the signs materially change Southern California will experience next year a more bountiful crop of oranges than was utilized last season. Last year 26,671 carloards of oranges were shipped to eastern markets. This year the yield promises greater by from five to ten per cent. which will increase the output very considerably. Of course no fixed estimate can be made at this time, because we cannot tell what is before us from a weather point of view. But if no unfavorable conditions occur we are reasonably sure of a bumper crop both of oranges and lemons. Tulare, Butte and other counties in the north are shipping oranges for which they are receiving most satisfactory returns, and it looks now as if California, as a whole, will grow rich out of its product of citrus fruits alone.

Florida will not make the showing credited it a few weeks since, and danger from competition on that score is eliminated to the extent which makes it no longer feared.

Hence the California citrus grower faces the coming season with more than reasonable certainty of an increase in his output. If the prices shall remain as they are the orange and lemon growers of this state will all be past the danger point for years to come, for they can pay their indebtedness, if they have any, improve their holdings and be prepared for any change in conditions in the years to come.

* * *

The Packers' New Deal.—Apparently the meat packers of the great centers have determined to get even with the farmers of the country. Angry at the prosecutions of the government which have been encouraged by the millions of farmers most of whom are cattle raisers, the packers now propose to purchase three millions of acres of land in Wyoming, on which 1,500,000 head of cattle can be run the year around, and to become independent of the cattle growers.

The land belongs to the Union Pacific and is appraised at three dollars an acre. The proposition is one which the cattle growers must meet. They can do so by co-operation, establishing packing plants of their own and disposing of their products through their own resources.

The trouble has always been with farmers and cattle growers that they will not co-operate, they are too widely separated and too indifferent to a community of interests. But now that they are confronted by a dangerous monopoly they will have to get together and present a front which will protect their interests.

The cattle growers can take care of themselves if they will co-operate. They can produce and market their product at reasonably remunerative figures, but they can not stand against the combine of packers unless by a system of co-operation.

* * *

Awaiting the Owens River.—The agriculturists of the San Fernando and San Gabriel valleys are waiting anxiously the settlement of details which will insure to Southern California abundance of water for all time to come The injunction suits started against the ranchers of this broad territory are troubling these farmers not a little, for should they be made permanent this vastly rich country will become a comparative desert and the earnings of a life time will be swept away by the edict of the courts. There is need for immediate and urgent action by the authorities to get this water into Southern California. Millions of dollars of property depend on it.

It is the all important issue of the present. The future of all this southern country depends on the united and energetic work in bringing the Owens River to our land.

* * *

Municipal Ownership.—Municipal ownership has gained a point in Colorado by the statement of the trustees of Silverton for the quarter ending Sept. 30. "Silverton is not the largest city in Colorado, but it is large enough to show what the people can accomplish in the matter of public utilities when they are free to act—not hampered by existing contracts, by courts, poltical cormorants or grafters," says the Denver News. The following figures, taken from the quarterly report of the finance committee of the Board of Trustees of Silverton, shows what municipal ownership of the light and water plants in that town accomplishes: Income from water works for past quarter, $2,205.19. Income from electric light plant for the month of September, $285.98. This latter was the profit from the light plant for a month, when the expenses were $1,188.66. Municipal ownership in Silverton pays all expenses in maintaining local government and there are no local taxes on property in Silverton.

* * *

On the Sun Kissed Trail.—Last month more than 30,000 tourists from the rocky shores of Canada on the north, to Texas on the south, from the shores of the Atlantic and from no-mans-land, rolled, tumbled and slid into California to test the merits of a land so generously advertised as a sanitarium for all the ills which flesh is heir to.

Many of these people have come to stay, say twenty per cent. of them, and the other eighty per cent. will go back East, sell what property they can and return after a while. Just as the rest of us have done in the years gone by. Hundreds of those who have come this week will not live long anywhere. They are consumptives or weaklings who have been pushed away from their Eastern homes because their physicians don't want them to die on their hands. This reminds us that we read in a Los Angeles paper, a few days since, the statement by a Los Angeles physician of the heartless practice of Eastern physicians who send hopeless invalids to Southern California in order to get rid of them. He mentions a particularly harrowing case of this kind, that came under his observation. Commenting theron, this physician says, "while change of climate is sometimes a good thing, no change of climate can possibly be of much avail where people carry erroneous methods of life with them. As to the curing of consumption, if not too far gone, you may cure it anywhere, provided you live in the open air day and night, and eat just as much plain, wholesome food as you can digest and assimilate. The open air life is, of course, far easier in a section like California than it is on the Atlantic coast. The main thing, however, is to see you get pure air, and this cannot be found in any large city."

Nevertheless it is a shameless practice to encourage consumptives, in the last stages of the disease, to come away out here with the hope instilled in their minds that the climate of California will return them health. There is only one place for the sick—and that is home.

* * *

Farmers' Clubs.—Now that we are in the long evenings again, farmers' clubs should take on renewed vigor. They should exist in every township in the State where population will warrant. They will prove of substantial benefit in the social, intellectual, and moral improvement of those numbered among their members and show that the farmers are imbued with the spirit of progressiveness which should prevail on every hand. Wherever these clubs are found there also is the telephone and rural free mail and good roads. They will likewise stimulate the commuuity to ask for a State Institute located at some central point in the county at which a great fund of information will be procured.

* * *

More Water Needed.—Los Angeles and San Francisco are engaged alike in quest of water for the future. Both cities have almost reached the limit of supply and, as yet, have but just begun to awake to the mighty demand which will come, in the not far distant future, from the million or more population which each of these cities will embrace.

Los Angeles has gone two hundred miles into the mountains, and from an inexhaustable supply of pure snow water, will, at a cost of $23,000,000, bring 30,000 miners' inches of water into the city. This will be enough for Los Angeles, when she is a city of a million and a half, and furnish beside, abundant irrigation service for the ranchers in a territiory one hundred miles wide and one hundred miles long.

San Francisco is also going into the mountains for her water. The territory from which this supply will undoubtedly come is close to Lake Tahoe in the higher elevation of the Sierras, where a chain of lakes, about fifty in number, and the American and Cosumnes rivers, will be sufficient to pour 75,000,000 gallons daily of the sweetest water in the world right into San Francisco—a supply now believed to be sufficient for the next two centuries—and at a cost of $38,483,000.

* * *

The Flower Show.—The success of the new Southern California Horticultural Association whose exhibit closed on Saturday in Los Angeles under such auspicious conditions will afford encouragement to the Floral Society of San Francisco, which holds its annual meeting on 9-11 of this month in the grand hall of the Ferry building. These exhibitions of garden beauty will have a most beneficial effect on flower lovers over the State. Tourists who viewed the Los Angeles flower show pronounced it the most beautiful thing of the kind they have ever witnessed while new comers to the State were frequently heard say that one of the main reasons why they desired to come to California is that they may grow a flower garden. A home in this enchanting clime without a flower garden would be indeed incomplete. Half the beauty of living here is in the raising of flowers, and the man or woman who is devoid of this ambition misses to that extent the glory of a California home.

In both the Los Angeles and San Francisco floral exhibits the veteran flower grower will find ample opportunities to gather new suggestions of value, while to beginners will be created an incentive to do their best.

COUNTRY SOLID FOR RATE LAW.

Joseph H. Call of California, member of the committee appointed at the recent railway rate convention in Chicago with the entire committee will shortly call upon the President to present to him resolutions adopted at Chicago.

Mr. Call declares that the vast majority of the people of the country demand legislation that will put into the hands of some administrative body of the government power to correct the evils of existing railway conditions.

"The sentiment of the country unqualifiedly indorses the efforts of the President to secure a remedy for present evils," declared Mr. Call. "I believe the President's plan is one that not only will reduce the oppression now imposed upon the people, but one which will protect the interests of the railroads as well."

If action on this question is postponed by Congress, the Cultivator believes, it will continue to be the issue before the people of the country until Representatives and Senators are elected who will do what the people want.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The vineyards of Sonoma County will yield but little over half of their usual crop.

A representative of the Cultivator now in San Diego county writes that the olive and lemon orchards between San Diego and the Mexican line are heavier with fruit than any he ever saw.

In order to keep out the Florida White Fly (Aleyrodes Citri), the Governor of this State has ordered a quarantine established against all citrus fruits and citrus nursery stock from that State.

The fruit packing and shipping companies of Redlands are already making extensive preparations for caring for this season's orange crop, which is just now beginning to turn from green to gold. One local company alone is preparing to pack more than 1000 cars of fruit in Southern California this season.

Articles of incorporation have been filed with the County Clerk of Riverside County for the Orange Heights Fruit Association, a Corona corporation. The directors and stockholders are W. C. Barth, J. G. Moore, W. C. Sargent, F. E. Thompson, Jacob Stoner, L. A. Frick and L. R. Nichols, all of Corona.

In one day a packing house at Fowler received 93 3-4 tons of raisins or an equivalent in value of about $8000 and no day in the last three weeks has it received less than 50 tons. It has shipped on an average of three carloads a day during this busy season and it is said that the four local houses together have averaged forty cars per week during that period.

Much damage from rain may result to the walnut crop in Southern California. One of the largest growers in Orange county writes: "If the growers pick up the fallen walnuts at once and dry them on trays they can be saved but if neglected for a day or two the nuts will turn black, mould and crack open. The wind and rain caused most of the walnuts to fall and if it dries up in a few days the crop can be rushed out without delay."

Five acres of cherries are in full bloom on a ranch located near Stony Point, Petaluma county. The sight is a novel one. The trees are black Tartarians. The blossoms are perfect and the trees are heavily laden. Other trees in the orchard are also beginning to put forth blossoms, and it appears as if this entire acreage of fruits will soon be in bloom. The present state of affairs is unheard of previously in this locality.

In Napa, Sonoma, Alameda and Santa Clara counties, which comprise the dry-wine district, there is not more than half of the average yield. The quality is not of a very high standard, owing to the fact that in many districts the grapes are very low in sugar. Reports from the sweet wine districts indicate a considerable shortage, but this crop is of a much better average yield than in the dry-wine districts. In regard to prices, while they may be somewhat firmer, there will not be an advance proportionate to the increase per ton in the price of grapes. Last year prices for grapes ranged from $15 to $17.50 per ton, while this year $17.50 was the minimum price paid, $20 per ton being about the average.

The State Horticultural Commission will issue a monthly circular to the different county commissions throughout the State, containing information, advice or suggestions useful to them in their labors, tending to advance the horticultural interests of the State and to establish uniformity of method and action on the part of the Commissioners, to encourage a closer relationship and to permit the interchange of ideas. A record of quarantine work is also to be made, as well as of observations of fungous or bacterial conditions of trees and plants.

AGRICULTURE.

The shortage in the peanut crop around Orange is greater than at first supposed. It is said to be less than two carloads. Many fields of the nuts not yet gathered will be damaged by the heavy rains.

The harvest of grain is over in the Redlands section and reports show a fair crop to have been secured. The threshers are all back and the amount of grain may now be told with accuracy. In the Yucaipe valley there were 13,100 sacks of barley of 100 pounds each.

A "Cultivator man" writes from the Arroyo Grande: "This has been a good year in this always prosperous valley. Apples, beans and potatoes have yielded beautifully, berries have done well, a good crop of walnuts was of fine quality, dairy and stock interests are thriving.

Over $150,000 was received this year for cantaloupes grown within a radius of eight miles of Thermal. The yield was from 100 to 250 crates per acre, price per crate ran from 70 cents to $1.60. The crates are about one foot square and two feet long, and contain 45 cantaloupes each. In all, over 300 carloads were shipped.

It is reported that C. M. Buck and Frank H. Davis, who recently purchased 400 acres of land southeast of Lindsay, intend to plant a large tract next spring to cucumbers and other vegetables for the manufacture of pickles. They will build a pickle factory and establish a regular business which will be quite an addition to our foothill industries.

In the Beaumont and Banning districts 665,000 sacks of grain were harvested. There were also threshed 25,000 sacks, mostly barley but some wheat, in the Moreno valley. The total amount of grain threshed in the Moreno, Alessandro, Perris and San Jacinto communities was about 150,000 sacks, making a total of 228,100 sacks of grain in the Redlands district.

The chile pepper crop about Anaheim is now being marketed. There is an active demand in Los Angeles for the Anaheim and Yorba crops, buyers offering 14 to 15 cents per pound net for it. The first carload has been moved out over the Santa Fe at 14 cents, which gives the growers a good profit. One grower who only moved out three large sacks as a starter received $130 net.

There were about 16,000 tons of beets from Compton and Cerritos; 2000 from Lynwood Station; 2000 from Watson Station; 1000 from Clearwater and 800 from Patata Station. Making in all 21,800 tons, which averaged high test.

The late rainfall has proved a record breaker in Orange county for this season of the year. For the first two days the rain gauges recorded 2.75 inches. In the Santiago hills east of town and in the El Toro region the precipitation was more than three inches. The moisture comes at an inopportune time for walnut and peanut growers, but otherwise the farmers are accepting the downpour with due thanks.

Ten acres of alfalfa, near Calexico, that was cut for seed and threshed last week, produced 600 pounds of seed per acre. With alfalfa seed going at 16 cents per pound this makes $96 per acre for one crop of seed. In addition to growing a crop of seed any well cared for alfalfa field will produce seven or eight tons of hay per acre besides furnishing splendid pasturage for three or four months during the year.

MISCELLANEOUS.

United States Land Commissioner Daugherty, for Monterey county, announced Thursday that 340,000 acres had been withdrawn from public entry, pending the declaration of a forest reserve.

Extensive forest fires are raging north and east of here. A report from Baker's ranch says that Michigan Bluff is almost surrounded by fire. Wires are down and it is impossible to get particulars. Serious fires are also reported in the neighborhood of Forest Hill.

Robert W. Ayers of the forestry service has arrived from Washington for the purpose of testing eucalypts for fence posts. They will be dipped in boiling creosote which is expected to give them a period of use certainly more than thirty years and perhaps twice as long.

The Los Angeles Chamber of Commerce has compiled a statement of the products returned from the soil in Los Angeles county. Naturally the Dairy belongs to that class and the products are thus summarized in this branch in the report: "There are 600 dairies that produce 730,000 pounds of milk valued at $1,000,000. Of creameries there are 12, producing 2,000,000 pounds of butter, valued at $575,000; 1,000,000 pounds of cheese, valued at $160,000, and 800,000 gallons of cream valued at $584,000.

Nathaniel Ellery, State Highway Commissioner, has returned to Sacramento after an extended absence in Humboldt county and elsewhere. Mr. Ellery has been giving special attention to construction work on the banks of the Eel river, for which an appropriation was made by the last Legislature. He speaks of the work as being of the highest importance. There are now under construction two stretches of 2000 feet each of revetment work and 1000 feet of jetties. Property to the value of $1,500,000 will be protected from inundation by the river in its high stages, while a failure to perform the work would have involved the ruin of 700 acres of the best land in the State.

A BIG FINANCIAL INSTITUTION.

Much comment has been caused in financial and business circles of Southern California during the last few weeks by the announcement that the large and strong First National Bank of Los Angeles had vastly increased its capacity for banking by absorbing two other of the strong and representative institutions of Los Angeles, namely, the Los Angeles National Bank, formerly located at First and Spring Streets and the Southewestern National Bank, located at Second and Broadway.

As noted, the First National was an exceptionally strong institution, prior to this accession and with the increased facilities and force of representative bankers to its directorate now stands as the peer of any bank in the West. In financial strength it is the largest of any bank west of Denver and south of San Francisco.

The officers of the First National Bank are: J. M. Elliott, president; Stoddard Jess, first vice-president; W. C. Patterson, second vice-president; George E. Bittinger, third vice-president; J. S. Cravens, fourth vice-president; W. T. S. Hammond, cashier.

The directors of the bank number thirty-one and will comprise the directors of the three banks entering into the combination, together with H. E. Huntington and Epes Randolph. The names of the gentlemen forming the board are: J. M. Elliott, J. C. Drake, F. Q. Story, C. W. Gates, J. O. Koepfli, Walter J. Trask, H. Jevne, Stoddard Jess, W. T. S. Hammond, Dan Murphy, William M. Van Dyke, W. C. Patterson, H. F. Vollmer, W. E. Hampton, A. H. Naftzger, Frank P. Flint, L. C. McKeeby, C. C. Desmond, G. E. Bittinger, H. C. Witmer, John S. Cravens, E. J. Marshall, George J. Denis, Harry Gray, Gail B. Johnson, John B. Miller, W. M. Garland, Burton E. Green, N. B. Blackstone, H. E. Huntington, Epes Randolph.

The total resources of this institution aggregate over eighteen million dollars. The deposits are thirteen million, five hundred thousand dollars while the capital, surplus and undivided profits are in excess of four million dollars. Some of the stock of the institution has been sold at $400 a share.

These points give something of an idea of the strength and solidity of this institution. Any readers who may have occasion to maintain an account in Los Angeles and who wish absolute security may well correspond with the First National Bank, which promises, and fulfills it, that the small depositor shall have equal courtesies and attention with those who carry a larger account.

THE WESTERN HOMESEEKER.

Out of the supposed "wilds of Montana" there comes to our table one of the brightest, most up-to-date highly illustrated farm periodicals published west of the Mississipi. It fairly teems with matter relating to the vast field in the center of which it is situate and cannot fail to attract to that region many homeseekers who are about to act upon the advice of Horace Greeley and "go West."

The fact that four great Indian reservations are soon to be opened for settlement in that region is immediately responsible for bringing into existence the Western Homeseeker. Published monthly at Missoula, Montana.

C. H. SESSIONS, ASSOCIATE EDITOR

FEEDING VS. BREEDING.

Intelligent feeding has solved more of the vexatious problems in stock breeding than any half-dozen other things; a special plea for a more frequent use of one's good sense in respect to this question is made by E. J. Waterstripe in the Farm and Fireside and in which he says:

"Why is it that so many persist in growing hogs in the same old way—keeping them in a close pen, and feeding them exclusively on corn? Corn is not a growing ration, and hence is unfit for young and growing pigs. Many experiments have shown that corn cannot be fed alone at a profit. Corn is a fattening, and not a growing ration, and what young pigs need is a ration that will form bone and muscle—it will be time enough to attend to the fat later. Corn is the main crop grown in some parts of the country, and of course it seems rather hard for some feeders to get used to feeding a different ration than that of corn, corn and only corn.

"If the farmer cannot do any better, he should at least manage to have a pasture for the hogs to run in. Grass cheapens the gain, as it comes nearer being a natural food for hogs. But when feeding pigs grain they should have something else besides corn. As a test recently made at one of the experiment stations it was found that a much greater gain could be made by feeding middlings and skim milk with the corn. It is impossible for all farmers to feed the milk, but if something on the order of some mill feed were given with the corn it would cheapen the cost of producing a pound of gain. It requires some feed which has a good per cent. of protein to balance the corn and perfect the ration.

"The main point I wish to make is against the feeding of corn exclusively as a ration for hogs. It should be fed exclusively only in the end of the fattening period. It is common sense to feed other grain with corn. Corn makes fat, while food like middlings furnishes material for the flesh and bones. If some food is fed which contains a larger per cent. of protein, the body has a full supply to use in building up all parts of the system. A closer study in feeding all live stock is what is needed, and we must have it for the best results. When I look over the country and see how corn is being fed to horses I wonder how our horses are as good as they are. If the farmers of this country want better horses they must do some better feeding, and do it simply by feeding more liberally of oats. I know by experience that oats makes better horses, and makes them feel better and more like working. The same rule will work with feeding hogs.

"The only way to feed successfully is to study the value of the feed used. The man who feeds hogs with a profit these days must know all these things. If a profit is made by feeding corn alone it will be an exceptional case. When corn is high and hogs seem low a person hardly knows what to do. The only thing left to do is to plan and study, do the best you can, and take the results. Sometimes even the closest feeder will come out in the rear. I think there are more fine points in feeding hogs than all other stock. Don't say there is no money in hogs, but try feeding them more intelligently."

THE BILLY GOAT IS ALL RIGHT.

We note that the esteemed Live Stock and Dairy Journal is moved to make some facetious suggestions concerning the Humboldt county dairymen who recently have imported a carload of "strong smelling William goats" to place among the dairy herds for the purpose of preventing disease among cows.

"For argument's sake," says the Journal, "we will admit that a good strong Billy in good smelling condition would prevent the introduction of most any self-respecting germ, but we cannot help but remember the opinion the "old man" held of the young fellow who continually polluted himself with cheap cologne, that he "must have a pretty strong smell that he wanted to cover up.' They had better take the money spent for the goats and purchase some good disinfectant. They will probably have to do this before they get through—buy double the quantity they would have in the start, for that will be necessary to get rid of the William's reminder.' Nevertheless there is virtue in the "strong smelling" goat, We know so because we have kept him as a disinfectant for years among our dairy and herds in Iowa.

We admit he is a stench maker, that he is a fence knocker, that he is the meanest creature about the farm, but his smell is strong enough to drive away infectious germs and that is why we keep him.

The theory may be "old-fashioned" but it has much in it, as has been repeatedly proven by Iowa farmers when comparison has been made between those who keep "William goats" in their herds, and those who do not. The former having less per cent. of sickness in their herds and a healthier showing of hogs. Old-fashioned theories are not all to be cast aside. Our forefathers had a lot of genuine common sense.

HOW THE COWS ARE CARED FOR IN HOLLAND.

"Holland has often been called the cow's paradise, and it well deserves the name," writes Professor Connor, in the Rural World. "In the care and treatment of their cows the Dutch cannot be surpassed.

"In Holland the cows are turned out to pasture in May, and do not return to the stable until November. During the cold, damp days of early spring they wear blankets in the pasture to protect them from the weather. At milking time they are not driven to the barn to be milked, as is the custom in this country, but instead the milkmaids go to the cows, wherever they may be in the pasture, and carry back the milk, not wishing to give the cows any unnecessary travel. From the time they leave the barn in May until they return in autumn they receive no feed other than grass. During the winter the grain feed consists almost entirely of oil cake, feeding from two to four pounds each day. The principal feed, however, is hay, each cow receiving nearly thirty pounds daily. It takes the great capacity of these cows to handle so large a quantity of hay. The cows are put in the stable in the fall and are not let out again until the following spring. During this time they are given the best of care, scarcely an hour passes day or night that they are not visited by an attendant. They are watered, fed and milked with the greatest regularity and given every comfort possible.

"The Dutch owe their success in no small degree, in establishing so fine a breed of dairy cattle, to the careful selection of their breeding stock. Only a few of the choicest bulls are kept for sires, and the greatest care is also exercised in selecting the females."

PURE-BRED CATTLE.

The use of purebred cattle has greatly increased the interest in farming Farmers who care but little for their scrub cattle find more pleasure in raising pure breeds. This the editor of the Cultivator knows from long experience. With the advent of good stock on the farm comes greater interest in farming, a greater diversity in crops and better cultivation of the soil.

Sharples TUBULAR CREAM SEPARATORS

Will you buy a bad separator because the agent is a "good fellow?" Some people do. They should read this.

If You Have a Brand New Separator

not a Tubular, put it in the garret. **We guarantee Tubulars to make enough more butter than any other separator, and from the same milk, to pay 25 per cent yearly interest on their cost. You test them free side by side.** Your decision is final.

Carnegie is using investments paying 6 per cent; here is a guaranteed 25 per cent to you. The waist low supply can—simple bowl—enclosed, self-oiling gears—are found only on Tubulars. Catalog T 260 explains it.

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

U. S. SEPARATORS SOLD BY K. B. NORSWING

MAIN ST. AND SLAUSON AVE., LOS ANGELES

Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

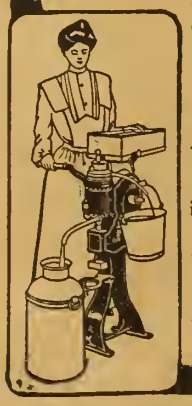
YOUR MONEY BACK - QUICK

5 Cows and a U. S. made $45.00 month
7 Cows but no U. S. made $11.00 month
The U. S. makes the difference $34.00 month

STAUNTON, ILL., SEPT. 25, 1905.

I hereby certify that on April 20th, 1903, I bought of your agent one of your No. 7 U. S. Cream Separators, and after using it for more than two years, I am more than satisfied. In 1902 I sold the milk of my seven cows to the creamery and realized from said cows an average of $11.00 per month. From the herd in the spring of 1903 I sold two of the seven cows and milked the other five, and my income from the five cows was $45.00 per month, a difference of $34.00 in favor of the U. S. Separator. If necessary I will make affidavit as to this statement.

E. D. BRUCE.



Now, how quick did Mr. Bruce get his money back? Well, the *extra* profits alone paid for his U. S. in just about 10 weeks. Many thousands of satisfied users prove the

U. S. CREAM SEPARATOR,
[Which Holds World's Record for Close Skimming

is the most profitable separator a farmer can buy. It does the best work the longest time with least trouble and smallest expense, and it

PAYS FOR ITSELF - QUICK

Send for free catalogue No. 550 F that tells plainly the reasons why.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.
18 Distributing Warehouses throughout the United States and Canada 421

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. W. C. MARBLE, Secretary.
J. E. MARBLE. J. E. FISHBURN

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DE LAVAL SEPARATORS

AND OUR LINE OF **DAIRY AND CREAMERY MACHINERY**

are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.

DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

MODERN DAIRYING A SCIENCE.

Fred J. Eldred, Summit Station, Ohio, at the last meeting of the Ohio Dairymens' Association, said: "Butter making is no longer mere guess work, but it is a science, carried on on scientific priciples. The improvements which go a long way toward making fancy creamery butter possible are:

First. Improvements in the production of milk.

Second. The Babcock test.

Third. Improvements in cream separators.

Fourth. The pasteurization of cream.

Fifth. The use of starters in producing uniform flavor.

Sixth. The alkaline test for acidity.

Seventh. Combined churns.

Eighth. Refrigeration.

The improvements in producing milk can be summed up in the following:

(a) Better equipped and better ventilated barns.

(b) Better and cleaner cans.

(c) Better knowledge of feeding stuffs and their relative values.

(d) The use of the aerator.

The Babcock test has caused improvements in separators, raising the capacity from three to four fold. It has also taught us to save hundreds of thousands of dollars by skimming cleaner and churning more exhaustively. It has given the farmer the idea that he must treat his cows better and take better care of his milk if he expects to have a good test at the factory.

While pasteurizing is not generally practiced, it is, with the addition of the starter afterwards, the means of insuring a good flavored butter where, otherwise, difficulties have been had. Many good buttermakers do not use starters, but it is wise to use one if there is trouble with bad flavor, or to make a more uniform grade of butter.

As for source of starters, one may be obtained from any good milk which has been properly cared for, but a more reliable source is to use a pure culture, which, if properly used, will insure uniform flavored butter. Indeed, there have been many instances where starters have saved the reputation of both buttermaker and creamery when all other means have failed. So I repeat—starters have much to do with making fancy creamery butter.

As it has been demonstrated that cream of certain richness should contain a certain per cent. of acid to produce the best results, the alkaline test has come to be used as a means of telling when cream has reached the proper acidity for churning. While an old buttermaker can tell closely when his cream is ripened properly, his standard may vary some and the Farrington acid test furnishes a standard which will guide him. I think this simple little invention is one of the greatest helps to a modern buttermaker in aiding him to produce a fancy make of butter.

CUTTING UP A HOG.

Now that November, the good old hog killing time is here again we would like to chip in a few suggestions about curing pork for home use. After killing and dressing, the hogs should hang until thoroughly cooled. Operations are usually begun early in the morning so as to have ample time to cool before night. There is greater demand for bacon in this country than for salt pork, hence the sides of all hogs which are not overfat should be converted into bacon. For salt pork, fresh roasts, etc., the hog is first split along the back, the cuts of meat being removed from the loin and shoulder portions and the belly strips used for bacon. When bacon only is desired, the hams and shoulders are first removed, after which the spare ribs are cut away.

Bacon strips about three inches wide are cut around the body, and these are cut in two. The hams and shoulders are cut short of the leg joint, well rounded, and trimmed. Lean trimmings are made into suasage or head cheese. Choice lard is made from leaf lard and trimmings only, second grade lard from gut fat, leaf lard, and trimmings. The hams, shoulders, and bacon are rubbed with salt and placed on edge in layers in a barrel which should first have a layer of salt sprinkled over the bottom. For each 100 pounds of meat make a pickle of ten pounds of salt, two pounds of brown sugar, two ounces of saltpeter, one ounce of red pepper, and from four to four and a half gallons of water. Put these ingredients in an iron or tin vessel, place it over a fire, and boil ten or fifteen minutes. Stir while boiling and remove the scum.

After the brine has cooled pour it over the meat and let it remain from five to six weeks; then remove, drain and wipe the pieces, after which they are ready for the smoke, which should last from two to three weeks. The patent liquid smoke produces meat of good flavor; if cured in the old-fashioned way, the smoke should be kept up constantly, but the meat should not hang near enough to the fire to become heated. The smokehouse must be tight, and it is safer to have a ground floor. The fire should be built in an iron pan near the middle of the building. If a red hot iron is placed in the pan and the corncobs and chips placed over this the smudge will be started easily. An occasional piece of green cottonwood adds to the smoke.

After smoking the hams, shoulders, and bacon, pieces can be sewed up in muslin bags, which are then whitewashed with lime and hung in a dark, cool place. The salt pork is left in the brine until used. It is usually salted more than the hams, and should be placed in a separate barrel made from well-seasoned oak. A stone is placed over the meat to keep it under the brine. In the spring the meat is removed and rinsed in clean water and the barrel scalded. The brine is boiled and the impurities skimmed off. The pork is then put in the clean barrel and the brine poured over it. If this precaution is not taken when warm weather approaches, the grease at the top of the brine will putrify and taint the meat.—Denver Field and Farm.

"How long can I profitably keep a brood sow?" is a question asked by many young breeders. Just as long as she proves profitable, whether that be one year or eight years. Provided she is a profitable brood sow, the litters from an aged sow will be larger and the pigs stronger and more thrifty than those from a young sow.

With reasonably good management, sheep should give greater returns than any other live stock.

If the best profit is realized, not only the wool, but the mutton and the lamb must contribute their part.

SKIMMING STATIONS AND FARM SEPARATORS.

By E. H. Hageman.

Skimming stations have never been thought of very much importance in their relation to the creamery, which seems to me should not be so when we consider that some of the most important work for the welfare of the creamery is done at the skimming station, such as taking and sampling the milk, running the separator and caring for the machinery, and last, but not least, it falls upon the station operator to keep the patrons satisfied and do the missionary work which otherwise is done at the creamery. Since the advent of the farm separator it seems as though the skimming station is destined to become a back number as the former has cut up the milk supply so that in most cases it makes it unprofitable to a creamery to continue skimming stations. As a rule, skimming stations increase the cost of manufacture, and unless at least 5000 pounds of milf is received the station is a drawback and does not pay. We receive better cream from the milk that is skimmed at the station from which we can make better butter than we do from farm separator cream, because the cream is made and skimmed uniform by one machine all under the same condition and the milk must come every morning, but with the farm separator, the farmer makes his own cream, skimmed with twenty or more different separators under the same number of different conditions.

But it costs more to operate the skimming stations and under the present system of marketing butter almost regardless of quality we do not get any more for the butter made from the uniform cream from the skimming station than we do for that made from the farm separator cream. Thus we see that the farm separator man gets just as much for his cream as the one who takes his milk to the skimming station, and with the advantage of having better skim milk and having less bulk to haul to the station, and then with the increased expense of running the skimming station, why should we continue to operate them? But if the butter is sold strictly on grade and keeping quality, then it seems to me it is up to the dairyman to deliver a better grade of cream, otherwise, the prices received for butter may be low enough to more than offset the advantages of the farm separator and skimming station and skimming at the creamery may again come into prominence. I hope the education of the dairymen will come in this way even if grading at the creamery will have to be resorted to, paying full price for nice sweet cream, from 1 cent to 2 cents less for cream too sour to pasteurize, and 3 to 4 cents less for what you might call rotten cream. I believe the skimming station might be done away with, with profit both to the dairymen and creamery if done in the right way without hurting the quality of the butter.

Probably the greatest obstacle to the successful operation of skimming stations lies in the question of getting the right kind of help to run the station, for it takes a good experienced man to handle the machinery, and build up the business among the pat-

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd Also Black Minorca chicken eggs in season. Stock for sale, also bred sows. W. R. McCASLIN & SON. Walsh Station, Sacramento County, Cal.

For Catarrhal Fever

Pink Eye, Distemper and all diseases Nose and Throat

Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1.00 per box, ½ doz. $5.00. Sold by druggists, or sent express paid
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal.

Registered Shorthorns
—MILK STRAIN—

El Capitan

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG

CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.

Write for descriptive literature, testimonials and prices.

The Cutter Laboratory
322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

CLIFFORD'S ANTI LUMP JAW

Lump Jaw can be cured. We mean exactly what we say—there are no "ifs" or "buts" about it. Our firm's name and good reputation are far too precious for us to risk them by misrepresentation. We do not ask you to take any chances in purchasing **"Clifford's Anti Lump Jaw"**—our guarantee of "no cure, your money back" goes with every bottle. We sell either direct or through agents. Price $2.00 per bottle, postpaid.

Our **Hog Cholera Remedy is guaranteed to cure.** Send $1 00 for sample package, full directions enclosed, prepaid, that will check the disease in 12 or more hogs.

Inventors and sole proprietors of Clifford's Medicated Nest Egg. Will kill all vermin. Our **Chicken Cholera and Roup Remedy** will cure all diseases that the feathered fowl is heir to.

CLIFFORD CHEMICAL CO., Manfg. Chemists, 818-820 Maple Avenue, Los Angeles, Cal.

rons. Such a man must also be an expert at the use of the Babcock test and in fact, be capable of managing a good sized business. Now to get a man of such qualifications means that he will be an all-round creamery man and will demand the wages of a person with such qualifications, whether the station gives him sufficient to keep him busy or not. He will not accept small wages, or if he does it will only be until a position in a creamery is offered to him at better wages. On the other hand, a man who is willing to work for small wages such as a skimming station is willing to pay, is in too many cases incompetent to handle the business. This seems to be the greatest drawback to skimming stations.

Skimming stations then must run to full capacity if profitable to the creamery so they can be left in charge of experienced men who can give all their attention to the work, and who understand every detail of testing and other work connected with it, as the former especially is a very important work in the hot valleys. Skimming stations offer the same advantages to the community of dairymen that a creamery does. The money is distributed just the same among patrons and it enhances the value of surrounding land and it seems too bad that they do not appreciate the worth of a skimming station more than they do in some localities and give them support that will run them to full capacity.

REMARKABLE ACCOMPLISHMENT OF THE HOLSTEIN.

President Moore of the Holstein-Friesian Association has given out a statement of results shown at the St. Louis cow demonstration, which tends to throw light on the methods employed by competing associations to secure the awards promised, as well as to put the performances of the Holsteins in better light before the country.

He makes this statement to the press:

"Our herd was hastily collected. We had no great national breeders' association to pay the bills. Economy was necessary. In the selection of our cows the time of their freshening was the prime consideration. Our choice was much restricted by these circumstances. We secured a few fine cows, but the majority were simply pure-bred Holstein-Friesians, without any previous record that promised exceptional excellence.

When the comparisons are made between the performance of this herd and that of the Jersey herd, two things should be borne in mind. First, that the latter consisted of the best Jersey cows in the land, all carefully acclimated and used to the surroundings, and, second, that with alfalfa hay, cut alfalfa and selected ensilage these cows had a great advantage over our herd in the way of roughage. The official report on the first ten-day period shows, however, notwithstanding these disadvantages, an average of 61.5 pounds of milk and 2.05 pounds of butter fat for the Holsteins against 43.8 pounds milk and 1.86 pounds of butter fat for the Jerseys. This was in accord with our private tests preceding the demonstration.

The next ten days we made a daily average of 1.97 pounds butter fat, but during the following twenty days our cows fell off so rapidly that the fourth ten-day period showed a daily average of only 47.1 pounds milk and 1.69 pounds butter fat.

On investigation it was found that the man in charge of our herd had acted in bad faith. He had deliberately unbalanced our ration. Instead of increasing the special daily ration of grains which he knew full well to be necessary at this time, because of our change from a richer to a poorer roughage, he decreased the daily feed of these grains from an average of foureen pounds to less than six pounds.

After his discharge we returned to the old ration and the cows responded instantly. Our daily average rose to 55.29 pounds milk during the fifteenth and to 56.61 pounds milk during the sixteenth ten-day period. But it is an undisputed fact that after a cow is once permitted to run down, the best treatment will not enable her to do her best again during the same period of lactation, and for eighty days of the demonstration we had to contend with this baneful influence, which made it impossible for us to make up for our loss during the thirty days from June 26 to July 25.

That the Holstein-Friesians made as good a record as they did in the face of these tremendous disadvantages is probably due to no small extent to the excellence of the specially prepared ration which was relied upon entirely.

The records of this test put our cows far ahead of all competitors in the production of milk, and solids not fat, and the average daily production of 1,832 pounds butter fat for a period of 129 days by a hastily collected and partly untested herd is under such circumstances, certainly a most remarkable performance, while the production of Shadybrook Gerben, a twelve-year-old cow, which exceeded that of the best Jersey cow, even in butter fat, gives you an idea what a better selected and acclimated herd of the black-and-white cows would have done."

In the dairy districts north of the Tehachapi, the Holstein is the favorite milker. Many of the great dairies of Mendocino, Napa and Sonoma counties use only the Holsteins, but in Southern California, it is claimed better results are gained from Jerseys, which do not require the same amount of feed to give proportionate results.

TO REMOVE WARTS.

C. F. Lee of Pasadena gave us the following recently as a sure cure for warts on cows teats, horses shoulders, a persons hand or any other place. He says it is an old-time remedy but none the less good and sure, and apparently little known.

It is simply the application of castor oil, once a day for ten days, simple, cheap, painless. Try it.

Another homely remedy given by Mr. Lee was for lumps on shoulder of working horses. It was to rub well with a solution of alum or borax in vinegar.

EGYPTIAN VS. INDIAN CORN.

Editor Cultivator: Will you give the relative value for feeding of Egyptian, Kaffir and Indian corn? Also is Indian corn practicable for this country?—W. B. C. Modesto.

The comparative table of the percentage composition of the three cereals is as follows, (Henry "Feeds and Feeding.")

Indian Corn (protein) 10.30, (fiber) 2.20, (starch) 70.40, (fat) 5.00; Egyptian Corn, (protein) 9.96, (fiber) 1.93, (starch) 69.70, (fat) 3.86; Kaffir Corn, (protein) 9.90, (fiber) 1.40, (starch) 74.90, (fat) 3.00.

Experience of feeders generally, has made the conclusion almost certain that no corn excels Indian, in fattening quality, taken measure for measure.

Kaffir Corn requires less moisture, so does Egyptian, but they will not put on fat as rapidly, nor keep the animal in uniform condition on long feeding as Indian Corn will. It is regarded as the best corn extant.

Indian Corn is not as practicable in Southern California as Kaffir or Egyptian because of the climatic conditions existing.

SOME PORTLAND WINNERS.

From the Stockton Independent we note that the Pierce Farm Holsteins are still winning premiums and medals. The manager, W. C. Hunt, has just returned with the stock after a five weeks' trip with three cars of those famous cows at California State fair and at Portland Exposition and he reports that the Pierce stock in competition with the Holstein world, which was represented by four large herds, won 80 per cent. more premiums and 90 per cent. more money than the nearest competitor.

The Pierce stock won at Portland the first prize for an aged herd, consisting of a heifer, a yearling heifer, a 2-year-old heifer, an aged cow three or over, and a bull two years old or over. Another first prize was won for the best young herd, consisting of a bull under two years, two yearling heifers and two heifer calves. Another first prize won was for the best get of a sire, consisting of four animals of either sex. Another first prize was on the produce of the cow, consisting of two animals of either sex. Other first prizes won were for the best bull calf, the best 2-year-old cow and the best 1-year-old cow. Altogether the Pierce herd won thirty-one ribbons and the next nearest competitor was given seventeen.

The famous Juliana De Kol, the cow holding the world's record and the animal sent to the East a year ago to show at the world's fair and later at the convention of the nation's buttermakers held at Chicago, where she was exhibited by Colvin Brown as spokesman for San Joaquin county, was not in the herd sent to the Portland fair because she is resting just now, but her promising son was there and he was a winner. The youngster is under one year of age but he is the best bred animal in the world. He was exhibited in competition at Portland and was given the first prize for a bull calf and won the junior championship for all bulls under two years, coming out of the contest as the champion over all calves and yearling bulls.

Juliana's record in milk is seven gallons a day for 100 consecutive days, so it will be seen that the coming head of the Pierce Stock Farm, the son of Butter Boy and Juliana, will be the record breaking youngster decorated with a California and Oregon first prize ribbon.

Mr. Hunt is one of the best known experts in the handling of Holsteins, having been reared in the business and having owned a $50,000 herd himself, which he sold shortly before coming west last April to take charge of the Pierce Stock Farm. He is therefore competent to judge Holsteins. He says the Pierce herds shown this year in California and Oregon are the best he ever saw, and he bars none in this country or Europe.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

Palm Glen Jerseys, Last Call! 21 Head Sold 6 Remain, viz:

(1) Oxford's Golden King, 68922, 14 mo. (2) St. Lambert's Melia Ann, 181343, 2 yrs., fresh. (3) Golden Kings Eloise, 168276, 3 yrs., in milk. (4) Sultanes Golden Ora, 184,419, 16 mo. (5) Sultanes Lady Fern, 187979, 1 yr. (6) Melias Golden Fernald, bull calf. Nos. 4, 5 and 6 are by Imp. Sultanes Golden Fern, all 4 females are bred to No. 1. No "culls" nor "cheap" Jerseys, but all of highest value and breeding and yet will be sold at half value, as we are moving to the city, and all must go quick.

A. B. WHITE, Palms, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, *if not the best* sire on the coast. several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the *bull free of charge. I sell on merit.*

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD

JEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want.

J. A. CAMPBELL, Buena Park, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

BIDDY AND THE INCUBATOR.

First we saw in our last talk that in order to compete with "Biddy" the incubator must have fresh eggs, as fresh as if it had stolen a nest like Biddy, that is, eggs not over two weeks old, from vigorous hens mated to an equally vigorous male, one not reduced in vigor by being mated to too many hens, nor underfed.

Having decided upon the kind of eggs that will produce the healthiest and biggest hatch let us consider the incubator that is to be the mother of the chickens. There are a number of excellent standard machines; none are perfect; some have to be watched and regulated night and day, and give as much anxiety as a sick baby. I know it, for I have been through all this trouble and can truly sympathize with Mrs. V. in her anxiety, but there are certain conditions which every kind of incubator demands before filling with eggs.

First, be sure that the incubator is perfectly level. This you cannot discover unless you have a spirit level. Do not be satisfied that because it was level last year it will be so this year. The leg of the incubator on one side may have shrunk or swelled more than on the other during the summer, or the ground may have settled, or the house have been jarred by storm or earthquake; "better be sure than sorry." If the machine is not level the heat will go to the higher side, the temperature will be uneven, and although it may be correct where the thermometer hangs, the upper side will be too hot and the lower side too cool. It is most important to have the incubator stand perfectly level.

* * *

Before starting the incubators test your thermometers. This should be done every season, for thermometers, until they are thoroughly seasoned and two years old, are apt to vary. You can get the thermometers tested at any good drug store or do it yourself. To test them yourself, first borrow your doctor's clinical thermometer, put all your thermometers into a bucket containing at least two quarts of water at a temperature of one hundred and three degrees, keep the water stirred and the bulbs at the same level and as the water cools note carefully the temperature on each, marking on the back, this thermometer half a degree too high, or too low, as the case may be, then mark on the incubator or on a piece of paper, "Thermometer incorrect—run incubator half a degree higher (or lower) than directions." If you have several incubators this plan will greatly assist you and you will make fewer mistakes in the heating.

* * *

Location of the incubator has much to do with the hatch. Ventilation is a most important subject, more especially in this warm climate. In the East, where it is cooler, there is a much more rapid circulation of air, more oxygen is brought into contact with the eggs and the carbonic acid gas is carried away there more rapidly than here. For example, a lady at Tucson wrote me that she was running her incubator with the door of it open, and the lamps not lighted and then it registered too high. Under such conditions there was very little circulation of air, and if the eggs had not been well aired the embryo chick would have smothered or been poisoned by its own carbonic gas emanations and those chicks which hatched would have been weakly, half poisoned little things, beginning their little lives handicapped by the lack of ventilation.

* * *

The incubator should be located in a properly ventilated room, not subject to great variations of temperature. Sixty degrees Fahrenheit should be as near as possible the temperature of the room. The reason for this is that if the room is too cool the air in the incubator will circulate too quickly, which has the effect of drying the eggs too much, whilst if the air in the room is too warm, it will not circulate enough in the incubator, it will be stagnant and the hatch will be poor.

A cellar that is dry and well ventilated, a cellar in which a human being could live and sleep without harm, does admirably for an incubator, but the air must be fresh and sweet, and not smell musty. I have visited poultry ranches in California where there were incubator cellars and in most of them I found the ventilation far from good and many of them were damp and mouldy. In one I found the temperature tolerably even, but the fumes from the lamps and the carbonic acid gas seemed to settle on and around the incubators and poor hatches resulted.

The owner of this cellar had made long ventilating pipes with a large chimney-like opening over each heater and he thought the hatches were somewhat improved by this. The best location then for an incubator is in a room or cellar where the air is pure, and there is but slight variation of temperature. It is also a great advantage to have it in a room nearby where it can be attended to without taking many steps such as up and down cellar stairs, and for this reason I kept most of my incubators in a room adjoining the kitchen, where I could give them a friendly glance occasionally.

* * *

The directions for operating each machine should be followed exactly, as each kind of incubator requires slightly different management, although the general principles are the same. I think in this climate the eggs require more airing and turning to insure a good hatch than in a cooler climate like the Eastern States, and I have found that even Biddy with all her God-given instinct sometimes does not air her eggs sufficiently, "sits too closely," we call it, and has a poor hatch.

Next week I will talk more on incubators and how to operate them.

RHODE ISLAND REDS
Fine large stock, heavy layers, best of broilers. Eggs, $1.50 per setting.
J. D. Setzer, Northrup and Pedro Sts., San Jose, Cal.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING
PAPER
MANUFACTURED BY
PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

RUBEROID ROOFING
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

WHITE CREST RANCH
S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS
I am offering some exceptional yearling breeding stock at a reduction for the next 30 days to make room for growing stock. Prices on application.
WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100
My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.
W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS
YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.
And Now Comes New Reward for Merit:
Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."
WRITE FOR CATALOGUE 47—A BEAUTY
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT
The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

EDITOR'S QUESTION BOX.

Feeding.—(Mrs. R. A., San Jose). I live on a 60-acre fruit ranch. I have about forty-five old hens (two years) and sixty-five pullets. We feed them five three-pound lard buckets full of Coulson feed in the morning, and the same amount of wheat at night. They have soaked alfalfa leaves, grit oyster shells, and scraps from the table, melon rinds, cabbage (sometimes) potato peelings, etc. The breeds are Minorca, Plymouth Rock, White Leghorns. About a dozen are molting. I get about three or six eggs per day. Now do I feed enough? If not, please give me the rations for that number of chickens. They do not get out and scratch as I think they should. I will be very thankful for any advice you may give. My hens didn't lay well last year. We have a large hen house and about seventy-five roost in that, others in the trees, and some in a small house. My pullets were hatched in April and May. They have plenty of fresh water, but I am afraid we don't feed them enough.

Ansyer.—You do not feed enough. That is the trouble. Weigh your food for one day, then measure what you have weighed, so you may know in weight what your measures hold. Edgar Warren's rule, and he is an authority on getting eggs, is to feed one ounce (weighing it before adding water) to each pound weight of hen. your hens would probably average five pounds each. You have, with pullets, about 110, that is, not counting the males. Your hens would therefore require about thirty-four pounds of food per day and you are giving them less than half that. You are feeding enough to keep them alive but not sufficient to give eggs.

The food goes first toward nourishing the body and supplying the daily waste and after these needs are supplied the balance goes to forming the eggs. Some of your hens are getting sufficient. They probably are the most active or the fighters, and forcibly take the food before some of the weaker and younger can have their rightful share. One great advantage in the dry feed method is that the hens cannot do this; they do not over-feed, either, because they can only take a few beakfuls at a time, and then go to the water and allow the weaken neighbors to get to the food.

Your hens would do much better if separated into colonies of about thirty-five in each, putting each breed as far as possible by itself.

* * *

Ducks.—(J. G. H., Riverside). I have been constrained to buy some ducks, Mammoth White Pekin, and as I know nothing about how to care for them, I write to ask you to please tell me how much and what and how often to feed them. Also regarding water and confinement. I shall greatly appreciate any information you can give me.

Answer.—Owing to absence from home, a reply to yours has been delayed. Rankin, the great authority on Pekin ducks, gives the following formula for feeding:

For breeding birds—Feed three parts wheat bran, one part Quaker oat feed, one part corn meal, five per cent of beef scraps, five per cent of coarse sand, and all the green feed they will eat in the shape of clover cut fine. Feed twice a day.

For laying birds—Equal parts of wheat bran and corn meal, ten per cent of boiled turnips or potatoes, fifteen per cent of cabbage chopped fine, five per cent of beef scraps, five per cent of coarse sand or grit. Keep grit and oyster shells always before them. Also fresh water in drinking vessel deep enough for the ducks to get their nostrils under the water.

* * *

Stubs on Legs.—(Subscriber). We have a pen of White Plymouth Rock cockerels that came from a prize pen. The very best ones have feathers on their legs.

Would you advise me to pull out the feathers and use them with my pullets from the same pens or throw them out entirely?

Answer.—Do not breed from White Plymouth Rocks that have feathers on their legs. "Stubs," as we call them, disqualify the birds in an exhibition. They come from throwing back to the Asiatic ancestors in the Plymouth Rock make-up, but have been so nearly bred out that it is extremely rare to find them, and if you have them to any extent I would not hesitate to say that somehow other blood has got mixed in.

In any case, do not breed from them, remembering that the male is half the pen and that half or more of the progeny will take after him. It depends upon his prepotency and his ancestry. The topic of properly mating and breeding is most interesting Pulling out the feathers would not lessen the danger of their reproduction in the offspring. The only way to lessen the danger would be to have the female more prepotent than the male and unless you are absolutely sure of this it is not worth while running the risk.

* * *

Turkeys.—(Mrs. J. D. W., Sonoma). Your help to others leads me to hope for help also. This is my first experience in raising turkeys. I had eight hatched by a turkey hen last April. I fed chopped fresh alfalfa, green onions, hard-boiled eggs, curds, a little corn meal, charcoal and grit every day until they were four weeks old, then I gave them wheat once a day with the other mixture. After a month old they were allowed to run at will. They grew remarkably. I weighed one gobbler September 4th, when he was 4½ months old and he weighed a trifle over 12 pounds. Toward the latter part of September he seemed lazy and did not care to eat or drink or dust himself, and on watching him I noticed his droppings were white. I put him by himself, gave him asafoetida pills and put carbolic acid in his drinking water. In about a week he died and there was not a speck of flesh on him. He was literally a skeleton. A few days after a turkey hen went the same way. It is over two weeks since she died and now I notice another hen has lost her appetite, although she is still fat and heavy. The feathers are smooth and glossy and the head remains red. Do you think eating grapes would cause it? They had the run of an old vineyard.

Answer.—Give each of your remaining turkeys a liver pill, as large a dose as you would take yourself, then skip a day and give another, for I think it is liver trouble from overeating when young.

It is difficult to diagnose a case when the only symptoms given are that they grow thin and the droppings are white.

You should hold a post mortem examination and find out what is really the trouble or disease. It may be tape worm, or possibly tuberculosis, or liver trouble, or enteritis; if it is the latter (which I do not think it is) the wattles and head would turn dark and the "caeca" be swollen and inflamed. The "caeca" are a part of the bowels like two tubes joined together by a small ribbon of fat (the pancreas). If it is enteritis (something like typhoid in human beings)

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

The Hatcher

That is gaining such rapid favor is **Dean's Pacific**. It is the best incubator made. Send for "Facts from Experience," also catalog. DEAN'S PLACE 2509 Central Avenue Los Angeles, Cal.

LEE'S EGG MAKER

25 lb. Pail, $2.00 WILL 2½ lb. Package, 25c

MAKE EGGS

Henry Albers Co., 315 So. Main St., Los Angeles, Cal.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

Armour's Improved Beef Scraps

Armour's Improved Beef Scraps contain no bone, hair, wool or tankage and are a rich brown color

Henry Albers LOS 315 South Main St. ANGELES

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

very little can be done to save the affected one, a liver pill and a little sulphur in the food and moving those that are well to new grounds, thoroughly disinfecting the old runs.

Enteritis is a bacterial disease; comes from a microbe either in dirty water, such as soiled by ducks or hogs, and is very infectious, but I think yours is simple liver complaint. Grapes never hurt my turkeys. I kept them in a vineyard for two years and never had finer, bigger turkeys.

DOES PURE-BRED POULTRY PAY?

There is but one answer. It does. It pays in the same proportion as pure bred stock pays.

No live, progressive farmer or stock raiser is content to raise scrub stock of either horses, cattle or hogs; he argues that thoroughbreds fatten better, grow quicker and make better returns for the money invested than scrub stock. The same argument is equally applicable to poultry. Pure-bred poultry develops quicker, fattens faster and weighs heavier, and presents a heavier appearance on the market, whether sold as live or dressed poultry, hence will command a better price. Another point of profit to the owner of pure-bred poultry is that he can usually sell his roosters at a price far above the market price to those of his neighbors who wish to improve their flocks and eggs in hatching season may be sold at an advance on the market price. While the cost of keeping and raising pure-breds is no more than the mongrels, the profits are all in favor of the pure-breds. If there were no profits, the pleasure one derives from seeing a flock of pure-bred birds, so near alike that one cannot tell "which from tother," is so great that once owning the pure-bred, one would with great reluctance go back to the flock of mongrels headed by a common dunghill rooster. I would urge every farmer's wife, for she is generally the poultry raiser on the farm, to resolve that she will raise none but pure-bred poultry; and having so decided, select the breed she thinks best suited to her needs, and by purchasing a few birds, or a few settings of eggs, procure a start, then stick to it in spite of what the neighbors will say, for there is always some one to decry a new venture anyway. Having once started I am sure she will say, as I do, it pays to keep pure-bred poultry on the farm.

SICK CHICKENS.

Many complaints are received from farmers about the half-grown chicks dying apparently without good cause at this time of year. It is hard to get a chick up to a few months of a profitable period and then lose it, but until all who raise poultry learn to fully realize the importance of constantly fighting lice there is likely to be a continuance of trouble. It seems almost safe to say that if one can keep lice out of the poultry house and off of the chicks and fowls there is nothing easier to raise profitably than poultry. The battle against lice should be unceasing.

Skim milk is excellent for laying hens.

October is the month to sell the old hens. Keep only the yearlings and the pullets. The old fowls will bring more money now than later, when the young roosters are being marketed.

RAISING CHICKENS IN EGYPT.

"The Egyptians may be slow and behind the age in some things, but in the science of raising chickens by artificial means I think they could give many other more progressive nations points," is quoted by "Feathered Life" as being the remark of a traveler who had just returned from a visit to Egypt. "For instance," he continues, "near the Pyramids there are some eighteen or twenty rudely-constructed incubating establishments, none of which from the outside look as if they were intended to make money. But on entering one of these hatching concerns, especially if it happens to be early in March, one soon realizes that the simple but extensive arrangements within are capable of turning out between 600,000 and 700,000 chickens a year.

"The incubatories are one-story buildings made of sun-dried bricks, being so arranged that the eggs are laid upon cut straw in racks in rooms around the ovens, which are kept well fired during the hatching season. The outside walls are very thick, and are built so that they retain the heat and the only thermometer used is the blood of the man or boy who attends to the fires. By long practice these men learn how hot the ovens ought to be kept, and they replenish the fires as the weather demands. Only a small amount of fuel is needed, and the temperature of the ovens is about that of 98 degrees above zero. The fires are built up for eight or ten days before the eggs are put in, to thoroughly warm the buildings, and after this they are allowed to go out during the hatching season, which is from March until May. The eggs are turned four times a day while hatching.

"The whole outfit of an establishment which hatches over 400,000 chickens a year does not I was told, cost more than 30 pounds and one man runs the whole machine, keeping the fires, buying and turning the eggs, and selling the chickens. There are in this incubator 12 compartments, each 70 feet long, 60 feet wide and 16 feet high, and each of these compartments will hold 7500 eggs at a time, or 90,000 eggs in all. It produced last year more than 650,000 chickens, and did the work of more than 20,000 hens. The supply of eggs for these incubatories is furnished by farmers living within a radius of 80 miles, and they either receive 5 cents a dozen for their eggs or five young chicks in exchange for every dozen eggs that prove productive. In this way more than 20,000,000 chickens are raised and sold in Egypt annually. The value of this product is estimated to be worth three million dollars.

GIVE PLENTY OF ROOM.

Just at this time, when the young stock begins to come to full size and maturity, there is danger that we are tempted to allow a certain amount of crowding in the hen houses. This should be avoided. It is liable to bring on disease, and it will usually result in rapid multiplication of red mites and other poultry pests. Our way to get relief is to sell off the old hens. The old roosters have, of course, been disposed of long since. If we have any hens of last year's raising, that have proven themselves to be good layers, and are typical specimens of the breed, they are kept over for next season's breeders. We like to have them begin laying in January or early February, so as to give us good eggs for setting that will give the March and April hatched chicks. The young cockerels have mostly been caponized, and been put into a house by themselves where they have a sand covered floor and low perches, but nothing else in the way of furniture. If the ventilation in the house is good, or if the whole front is open, the house being similar to an open shed, it will be sufficient protection for the young birds from the weather, and we can put quite a number in a comparatively small space. Our young pullets are also looked over carefully. Any specimen that is even slightly "off," either in color, or plumage, or shape, or otherwise, is soon disposed of. We want to keep our stock as pure and uniform as possible without running into the "fancy business." What we are after is a good and attractive business flock. We like to have people come and admire our fowls, and to tempt them to call for eggs for hatching. No first-class pullet is ever sold off the place. We want the early pullets for early layers and nothing but a fancy price would tempt us to part with even a single one of our "strictly business" pullets. With the old fowls gone, and the young males placed by themselves, we have again plenty of room for the remaining pullets and yearlings.—Prac. Farmer.

REST FOR THE BREEDERS.

With the breeding season over, give the old fowls intended for future use a summer's outing—turning them out to pasture in a shady grove or among the berry bushes.

Ducks should not be kept longer than two seasons.

Be very careful about damp poultry houses or roup will be the result.

The young geese should have one meal daily, even though they are on grass.

The present climatic conditions are telling on the egg supply. Feed your hens regularly and give them plenty of exercise.

The pullets will lay earlier and do much better if the cockerels are sorted out and yarded by themselves. The cockerels will also fatten quicker.

Grade the eggs before sending them to market, not only as to color, but as to size. Keep the big ones and the little ones at home and never send dirty eggs to market.

Exterminate the vermin by burning sulphur in the poultry house. Be sure that all fowls are outside and the house closed tightly so that none of the good effects are lost.

Watch your hens closely now for the next month. The wet season is at hand and there is liability of their taking cold. Get the cracks in their roosting places stopped to keep out the draught.

Poultry manure should be mixed with ashes or sand, so as to insure more even dispersion, and then spread upon the ground. It is a nitrogenous manure and unless properly cared for in the collection will soon become of no use. It should be mixed with the filler as gathered. Land plaster is, perhaps, the best absorbent to use in this way.

Franklin—Do you mean to say that you are going to take a preacher on your fishing trip?

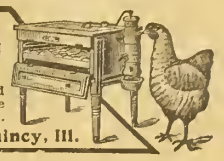
Penn—Yes; the people will believe him.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.50 and $3.00. per 14 Exhibition and utility stock for sale 132 Ave 32, Los Angeles, Cal.

$12.80 For 200 Egg INCUBATOR
Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
GEO. H. STAHL, Quincy, Ill.


A BARGAIN!
Pick of 50 WHITE ROCK HENS, fancy breeding stock from leading strains. Good color, shape and weight. Free from brass. Bred for heavy egg production and some laying now. Not one is worth less than $2, a number would be cheap at $5.00 each. Am in a hurry to move them, so TAKE YOUR CHOICE AT $2.00 EACH.
C. D. YOUNGKEN,
Tel. Sunset East 767 5520 Hill Crest Drive, Los Angeles

Breeding Cockerels
WHITE LEGHORN BLACK MINORCA
One hundred. Good Stock. A few pens of choice stock for sale. Write for prices
Avenue Poultry Yards Ventura, Cal.

S.C. RHODE ISLAND REDS, WHITE ROCKS, BUFF and BROWN LEGHORNS
High grade young stock for sale. Closing out our Brown Leghorns at bargain prices. No Sunday business.
LAKE AVENUE POULTRY YARDS
757 North Lake Avenue - Pasadena Cal.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the Last Los Angeles Show Our Birds Won Twelve Prizes.
Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks
Duck Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Ducklings 10 days, old, 25c each. Ready now.

SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

General Agricultural Notes

FARMERS AND THE ROADS.

It is a singular fact that the farmers, while the original foes of the bicycles and the movement for good roads, are now the most zealous advocates of this indispensible modern betterment. One cannot blame the farmers for their dislike of the bicyclers, for the latter invaded the quiet rural roads in a new and unheard of way. They demanded the best places on the roads and recognized no rights but their own.

But good roads began to be built. The bicyclers pulled so many wires, they worked so many interests, that good roads began spreading their way through the country in all directions. The bicyclers regarded them as built for their own especial use. They did not go so far as to claim exclusive use, except for bicycle paths, but that they were especially theirs they did not hesitate to conceal. And the farmers used these roads, many of which they had paid for in whole or in part, and found them very good. They found their horses could pull heavier loads with less cost than on the old unmade roads to which they had been accustomed. They awoke to their value, with the true American appreciation of cheapness, and anything that led to cheapness, and the second great factor in the spread of the movement for good roads was enrolled, and enthusiastically enrolled in the good work.

The value of the farmer conversion to the movement has settled the matter for all time. Bicycles may come and go, but the farmer lives on forever. We cannot get on without him, even if we would, and we certainly would not if we could. The farmers' interest being thus assured, there is no reason to look for any lessening of the general interest in good roads. That a good road is expensive to build, that it must be kept in repair, and that it is more or less a source of constant expense, is undoubtedly true; but most people now understand the benefits of good roads, and there is no longer need of arguing for them.—From American Homes and Gardens for November.

WATER IN THE SOIL.

A bulletin of the Michigan Experiment Station says:

A soil may have in it too much water, or it may have too little water, or it may have just the right amount of water for the best germination of seeds and the best growth of plants.

To discuss the management of soils so that they shall hold the most nearly proper amount of moisture for crop production and at the same time retain these amounts as far as possible from unnecessary losses is the object of this bulletin.

When water stands upon the surface for any length of time at any season, or within three feet of the surface during the growing season, the land should be drained, preferably tile drained. When soils take on the appearance and feel of dryness, although they may still contain a measurable amount of moisture, they have reached a point where they will no longer yield moisture to the growing crop.

Capillary moisture is the visible moisture which clings to the walls of the soil grains or remains suspended in the smaller openings between the grains. Capillary moisture does not occupy all the pore space of a normal soil, and therefore leaves room for the entrance of air into the soil. But there may be too much capillary moisture in the soil or too little for the best growing of crops.

The plant obtains all its food excepting carbon, from the soil or through it. In nature all these, excepting a part of the nitrogen, are derived from the soil materials, both mineral and organic, of which they form a part. These foods are dissolved in the soil water, and the water with its dissolved materials is taken in through the roots of the plants and thence conveyed to the leaves, where the food materials are reconstructed and much of the water thrown off into the air. From the leaves the remaining water with the reconstructed foods move out through the plant to the growing parts, where the food is transferred into plant tissue or is stored for future use.

But the food materials in the soil before they can be dissolved by the water must undergo a change by which they are made soluble. Whatever this change may be, water is one of the agents by which it is produced.

Water then is important: 1. In the changing of food plants into soluble form; 2, to dissolve and convey plant food to and into the roots of the plant, 3, to convey plant foods from the roots to the leaves for elaboration; 4, to convey the elaborated foods from the leaves to other parts of the plants for use.

SELECTION OF FERTILIZERS.

To any one who is familiar with either the scientific, or the practical side of the subject of agriculture, it seems as strange to expect a soil to go on supporting plant life year after year, and to yield abundant crops, without being fertilized, as it would be to expect a horse or a man to go on from month to month, working hard, but never eating anything.

Every grape on the vine, every pear on the tree, represents just so much vital matter withdrawn from the soil, and this vital matter, this nitrogen, this potash, this phosphoric acid, must be paid back to the soil if we look for continued abundance.

Any one living in a great fruit producing section, where vines and trees have been in bearing for several years, has but to look around him and note what vineyards and orchards produced the earliest, the largest and the most luscious fruits, and invariably he will find that it is those whose owners have been far-seeing enough to judiciously but nevertheless freely, use high-class fertilizers.

The late, the shrunken fruits, the meager crops, he will find in those vineyards and in those orchards where chance rules, and no attention is paid to the use of fertilizers containing these ingredients, in the proportions demanded by the nature of the crop it is intended to produce.

Phosphoric acid, nitrogen and potash are the absolute essentials of plant life. For the different crops these are required in varying proportions; but to enjoy their full effectiveness the source whence they were derived is a matter of importance. It is a wise adage that you "can't get something for nothing," and the buyer who permits himself to be cajoled into buying trashy material will find, to his cost, that he has made an injudicious and expensive experiment.

The result of years of experiments in this country and in Europe has demonstrated that the greatest economy and the greatest efficiency are simultaneously effected by the use of a good commercial fertilizer, containing all of the ingredients necessary to plant life. Further than this, the source of the ingredients entering into the composition of the commercial fertilizers is a matter of prime importance.

If the ingredients are of organic origin, if the grower's phosphoric acid and nitrogen comes from dissolved bone, from blood and from fish, then he is getting full value for his money, and he will reap the benefit in increased crops and in better qualities of fruit and grain.

When the grower is contemplating the purchase of fertilizer let him investigate the matter. Let him ask the agent who offers it to him "What are the sources of your ingredients?"

If the farmer will use abundantly of high grade fertilizers he will abundantly reap the benefit in an improved condition of the soil, and in an increase in the quantity and quality of his crop.

JOHNSON GRASS.

The Texas legislature has been compelled to pass a law enforcing the killing of the nuisance known as Johnson grass. The railroads are compelled to keep their right of way obsolutely free of it, in order that the grass may not spread to adjoining fields. The Santa Fe railroad engaged the services of a professional grass exterminator, and thus far he has made a success of it. Johnson grass makes a good pasture and good hay, but it is a decided nuisance to the crop raiser, as the more it is plowed up the better it seems to grow.

In our state it is especially a nuisance to the vegetable growing districts and it seems probable that our State Legislature will be called upon to make more stringent and far reaching the existing law relating to this pest.

WOODMANSE
BEST MILL ON EARTH
On account of its removable bearings will pump more water than any mill on earth.
F. H. OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

Ranch for Sale
To close an estate, we offer 33 acres near Compton, for sale. Choice Alfalfa land. Best artesian well in that section. Water to sell. Address
Phone Main 922 C. F. LEE, Pasadena, Cal.

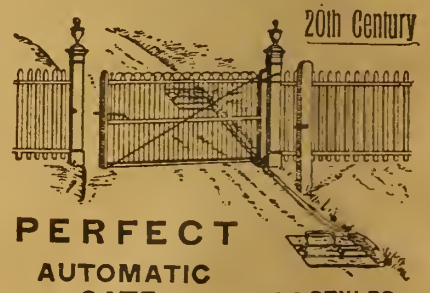
THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

Make Your Own Fertilizer
at Small Cost with
Wilson's Phosphate Mills

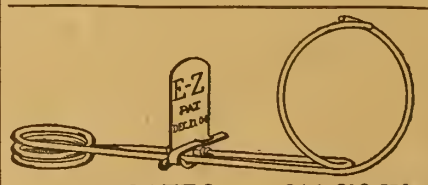
From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue.
WILSON BROS., Sole Mfrs., Dept. Easton, Pa.

Stump and Tree Pullers
Powerful, Handy, Low Priced.
Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1½ minutes. 1 to 5 acres at a setting. Different sizes to suit all kinds of clearings. For illustrated catalog address

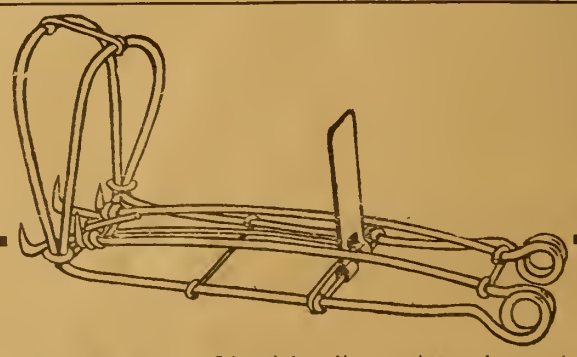
Milne Mfg. Co. 977 Ninth St., Monmouth, Ill.



PERFECT AUTOMATIC GATE. 20 STYLES.
Money Refunded If not satisfactory or as represented. Works 365 days each year. NO OILING—ten minutes each year and 10 to 20 cents expense—no more.
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California



Ask Your Dealer
for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.


A GOPHER TRAP THAT KILLS. It's mighty discouraging to buy gopher traps that permit the gopher to escape after the trap has sprung. If you have used other traps you know that gophers crawl or are thrown out of them and the gopher that has been caught and got away will never be caught again. If you would take no chances with traps, you should investigate the merits of the
IMPROVED C. V. 2-RING GOPHER TRAP.
This is a patented trap, embodying all the latest improvements. It is superior to the Single ring, as well as the Clutch and Claw Traps, or the double ring disables the gopher and holds it securely, allowing no possibility of escape.
See that you get the genuine Improved C.V. 2-Ring. Sold everywhere for 25c; or if your dealer does not have them, send us his name and 25c. for sample trap or $2.50 for a dozen, which we will forward postpaid. FALLS MFG. CO., 14 Drumm St., San Francisco.

Queries and Suggestions

NUT GRASS.

Editor Cultivator:—We are having any amount of trouble here with nutgrass or Florida grass. It is almost impossible to get rid of it, it multiplies so rapidly. Some of it has got under my cement head ditch where it cannot be reached. I would like to inquire if crude oil is spread over the ground where the roots are would prevent it from coming up. Yours truly, W. F. McC., Upland.

Crude oil would doubtless kill it, but we believe if coming through sides it would pay to dig down and salt liberally. Use oil sparingly in the ditch and allow to dry somewhat before running water.

CONTROL OF STORM WATERS.

Editor Cultivator: What is the California statute regarding disposal of storm waters in highways?—G. D. L., Gardena.

The law has been construed by the courts in various ways, depending on the conditions which surround the case. In incorporated towns the authorities must care for the excess waters; in the country the Board of Supervisors have this responsibility. We cannot quote the statute at length nor the opinions rendered by the Supreme Court. The general rule is, however, that individuals must care for excess waters, the rule is practically the same with incorporated towns.

HOGS NOT BEST REMEDY.

Editor Cultivator: Will you let me know through the columns of your paper what effect the pasturing of hogs will have upon morning-glory. I have been informed (whether reliably or not I do not know) that hogs will kill out this pest if closely pastured.—W. H. B., Ventura.

Hogs will undoubtedly kill out morning glory but the process would require pasturing for several seasons. The best way to get rid of the pest is to plow it up and burn the vines when dry. A radical remedy for morning glory was published in the Cultivator several weeks ago. Refer to your file for information on the subject.

BLOATING AFTER DRINKING.

Editor Cultivator: I have a driving horse that bloats after feeding if I water after meals. I tried watering before feeding, but my horse won't drink then.

Is there a hard and fast rule about watering horses? If so, what is it?—E. P. G., Anaheim.

No. A hard and fast rule cannot be made to govern all cases. Liverymen usually water before feeding, but this is according to their individual notion which is the better plan. The fact is, much difference of opinion exists among farmers as to whether horses should be watered before, after or during the feeding period. Some claim that it is much better to water them before feeding, while others claim better results are obtained by watering after they have been fed. Quite a number of experiments have been carried on with a view of determining the best method, but it seems to make no difference whether water is given before or after feeding. It is best, however, that whatever course is adopted should be followed. In other words, regularity should be practiced. It is not a good plan to water them before feeding one day and after feeding the next. We should be pleased to hear from our subscribers on this point. But in your case the probable cause of your horse bloating is indigestion. A prescription for this trouble was given by Dr. Oliver in his department about a month ago.

BLACKBERRY PRUNING.

Editor Cultivator: Late last spring I planted some Mammoth Blackberries and they are now trained on wire trellis. What I want to know is, do I cut the canes back to roots or leave them for next year as they are, pinching off new shoots in spring as they appear? I am told this years' wood bears next year's fruit. Please tell me which is right way and oblige. W. B. H., Los Gatos.

If the Mammoth Blackberries were planted in the spring of 1904 and have borne fruit, all old canes should be cut off, as this year's growth bears next year's fruit. I never cut or pinch back new growth but give plenty of irrigation during fruiting period.

I have only found the Dewberry strong enough to bear having all the growth kept down during the fruiting season, after fruiting (the dewberry) I cut off all the vines close to the ground making growth of all the wood for next year's fruit, after spring crop,—W. M. Gray.

LEAF FUNGI.

Editor Cultivator: Would you kindly tell me what is the trouble with my "Leopard Plant;" enclosed find leaf of same. I have it in good earth and keep in the shade and water well, but after the leaves are out a day or so, they begin to dry on the edges, and spoil the appearance of whole plant. If you can give me any information through the columns of your paper I shall be very grateful.—Mrs H. L. D., Stockton.

Put a little fresh lime around your plant, keeping it away from stem, work into soil, after which keep soil dry for a while. The plant is attacked by some fungus caused, no doubt, by a sour condition of the soil.

NON-BEARING ALMONDS.

Will some reader of the Cultivator please tell me why my almond trees don't bear? I have four large thrifty trees, are full of blossoms every spring, but all drop off or nearly all. I haven't pruned them much; is that necessary to make them bear? There are trees within a mile that bear good and not much pruning either. J. R., Fernando.

"The almond has an interesting history in California, but it can be outlined in a few sentences. The importation of the best European varieties began very early, and a number of them had been planted in 1853. They proved irregular bearers, though the trees grew thriftily and in some cases showed fruit very soon after planting. The barren almond trees were largely grafted into prunes or made into firewood and the conclusion was reached that to secure regularity and abundance in fruiting, locations for almond orchards must be sought with the utmost care, and that the secret of success lay in the location. After that local seedlings seemed to demonstrate their value in regular crops, and in characteristics and qualities superior to foreign kinds. Large planting was then undertaken on the ground that the choice of soil and situation, and the selection of trustworthy varieties are both factors of success, but that possibly more lay in the choice of variety than of location. This belief led to wide planting in locations now seen to be unfitted by reason of frosts and at the close of the century the almond acreage is being reduced by cutting out unprofitable trees, and it seems to be fully demonstrated that no matter what variety is chosen, locations for the almond must be selected with great care. It has also been demonstrated that association of varieties promote pollination and satisfactory bearing.

Situations and soils for the almond.—Almonds are now doing best on the higher land in coast valleys, free from fogs and protected from direct winds, but subject to tempered breezes, also at various points in the interior valleys and foothills. The general proposition is that low lands in small valleys should be avoided, and bench or hillside situations preferred, seems to be a safe one. Lands directly upon the coast have not proved satisfactory.

The almond prefers a loose, light, warm soil, and heavy, poorly-drained soils should be avoided. Though they need moisture enough to make good thrifty growth they will produce good crops on soils that are too light or dry to grow satisfactory peaches, apricots, nectarines, cherries, or similar pulpy fruit. The almond is, however, a very deep-rooting tree, and may succeed by reaching deeply for moisture rather than by denying itself, as some think. The tree certainly suffers and is barren from drouth in some cases."—From Wickson's California Fruits.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immedtate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

FALL SICKNESS.

Editor Cultivator: Will you kindly tell me what to do for my pigs? When about three weeks old they acted as as though they had caught cold, coughed and sneezed, their mouths got sore and some went blind and died. Others stagger around for some time before they die. Even the most thrifty are affected the same way. We feed the sows in separate pens. Soaked barley is their main food. Kindly advise me at once.

I am at a loss to define the disease or the cause of it, seeing that only the young pigs are affected. Any medicinal treatment would have to be given through the sows. I would advise giving the following so that each sow would get one tablespoonful each feed: sulphate iron pulverized; sulphur; willow charcoal 2 pounds each. Mix.

Waite, Bailey & Lynch, machinery merchants and engineers buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, motors, etc. Otto gasoline engines, all sizes, to 200-H. P., more economical, therefore superior to all others; prices and terms that will insure due consideration. See us and be convinced. Southern California sales agents, Waite, Bailey & Lynch. Office and manufactory, 943-945 N. Main st., corner Bruno st., Los Angeles, Calif. Phone Home 1263.

LOS ANGELES PACIFIC R. R.
The Balloon Route

Takes In All New Towns
In the frostless belt from Los Angeles to Santa Monica canyon

Takes In All Beach Resorts
From Santa Monica Canyon to Hermosa and Redondo.

Takes In All Suburban Towns
Between Los Angeles and the ocean.

Takes You In
And gives you more for your money than any ride in the world.

General Offices:
316 W. Fourth St., Los Angeles, Cal.
E. P. CLARK, Pres. T. R. GABLE, Traffic Manager

PROSPECTOR'S EXCURSIONS
from LOS ANGELES to

NIPPENO,	round trip,	$20.00
GOOD SPRINGS	" "	20.95
LAS VEGAS	" "	23.60
MOAPA	" "	27.55
CALIENTE	" "	33.45

VIA THE
Salt Lake Route
These tickets will be sold daily, commencing Nov. 1st., with a return limit of 30 days. Mining literature gladly furnished free. Los Angeles City Office, 250 South Spring St.

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

Choice of
MANY ROUTES
East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso
OGDEN Via San Francisco
SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

TELL HER SO.

You've a neat little wife at home, John,
As sweet as you wish to see;
As faithful and gentle-hearted,
As fond as wife can be;
A genuine home-loving woman,
Not caring for fuss or show;
She's dearer to you than life, John;
Then kiss her and tell her so.

Your dinners are promptly served, John,
As, likewise, your breakfast and tea;
Your wardrobe is always in order,
With buttons where buttons should be,
Her house is a cozy home nest, John,
A heaven of rest below;
You think she's a rare little treasure;
Then kiss her and tell her so.

She's a good wife and true to you, John,
Let fortune be foul or fair;
Of whatever comes to you, John,
She cheerfully bears her share.
You believe she's a brave, true helper,
And perhaps far more than you know,
It will lighten her end of the load, John,
Just kiss her and tell her so.

There's a cross-road somewhere in life, John,
Where a hand on a guiding stone
Will signal one "over the river,"
And the other must go alone.
Should she reach the last milestone first, John,
'Twill be comfort amid your woe
To know that while loving her here, John,
You kissed her and told her so.
—Selected.

NEVER MISSED THE TRAIN.

The railroad ran along one side of a beautiful valley in the central part of the great state of New York. I stood at the rear end of the train, looking out of the door, when the engineer gave two short, sharp blasts of the steam whistle. The conductor, who had been reading a newspaper in a seat near me, arose, and touching my shoulder, asked if I wanted to see a "real country newsboy." I, of course, answered, "Yes." So we stepped out on the platform of the car. The conductor had folded up his paper in a tight roll, which he held in his right hand, while he stood on a lower step of the car, holding on by the left. I saw him begin to wave the paper just as he swung around a curve in the track, and a neat farm house came in view, 'way off across some open fields. Suddenly the conductor flung the paper off toward the fence by the side of the railroad, and I saw a black shaggy form leap over the fence from the meadow beyond it and alight just where the newspaper, after bouncing along the grass, had fallen beside a tall mullein stalk in the angle of the fence. It was a big, black dog. He stood beside the paper, wagging his tail and watching us as the train moved swiftly away from him when he snatched the paper from the ground in his teeth and, leaping over the fence again, away he went across the fields toward the farm house.

When we last saw him he was a mere black speck, moving over the meadows, and the train rushed through a deep cleft in the hillside and the whole scene passed from our view. "What will he do with the paper," I asked of the tall, young conductor by my side. "Carry it to the folks at the house," he answered. "Is that your home," I inquired. "Yes," he responded: "my father lives there and I send him an afternoon paper by Carlo every day in the way you have seen." "Then they always send the dog when it is time for your train to pass?" "No," said he, "they never send him. He knows when it is train-time and comes over here to meet it of his own accord, rain or shine, summer or winter." "But does not Carlo go to the wrong train sometime?" I asked with considerable curiosity. "Never, sir, he pays no attention to any train but this." "How can a dog tell what time it is, so as to know when to go to meet the train?" I asked again. "That is more than I can tell," answered the conductor; "but he is always here and the engineer whistles to call my attention for fear I should not get out on the platform until we have passed Carlo." "So Carlo keeps watch on the time better than the conductor himself," I remarked, "for the dog does not need to be reminded." The conductor laughed, and I wondered as he walked away who of your friends would be as faithful and watchful all the year 'round as Carlo, who never missed the train, though he could not "tell the time by the clock." —O. A. D.

WHAT WE RECEIVE BY GIVING.

The man or woman who gives cheerfully to good causes and humantarian purposes what he can afford to give, derives therefrom lasting beneficial results. Besides this, it will act as a stimulant to others who have more means to bestow; and your few dollars shall be augmented by other dollars until an endless chain is formed and tight purses shall be opened and hard hearts softened by your example.

Never for one instant allow yourself to fear poverty and dependence. There is a type of so-called generosity which leads to the almshouse. Many a man who is called a "generous, open hearted fellow, who puts his hand in his pocket for every friend," dies bankrupt and homeless. But investigation will prove it is his wastefulness, outside of his generosity which brings the disaster.

Nothing is wasted which we give willingly and lovingly to others, even if we find it was not worthily bestowed for the impulse left its benefit on our lives and characters, but the money spent in show, display and dissipation, in feasting and in extravagant entertaining in a desire to outdo our neighbors, or to make our enemies jealous —that indeed is the waste which leads to want.

Back of each invisible being stands a host of invisibles, and by the nature of your thoughts and desires and ambitions you determine the class of these invisibles who come at bidding to lend countenance and strength to your undertakings.

To each individual at last must be the choosing of his spirit companions. Each and every soul must decide for himself. whether he desires the co-operation of the earth-bound gourmand, drunkard and race-track suicide, the miser and money-hoarder, or the great spirits of light who were the philanthropists and helpers of earth when here.

We choose our unseen companions as we choose our earthly associates, and by the company we keep we are known here and beyond.

Were I the mother of a marriageable daughter, says Ella Wheeler Wilcox, I should hesitate to see her become the wife of a man noted primarily for his economy. The influence of a man upon a woman in matters concerning money is far reaching and subtle. I have known a woman of financial independence and generous proclivities to become utterly transformed by marriage with a man whose one idea of life was the accumulation of money.

And let this mania take root in a nature and it renders it impervious even to the fear of ridicule and scorn of associates; for such a man believes always that in the long run his money will make him a power and bring him the respect he is forfeiting by his petty meannesses along the way.

But this is an error which he either discovers too late or else remains in ignorance of to the end, which is sadder still.

The man or woman who waits until fortune is won to be generous in small matters remains a miser to the end of life. Generosity is a plant which does not grow in a night. It needs cultivating, guiding and pruning. Then its flowers are beautiful.—its fruits precious.

THE BEAUTIFUL DINNER TABLE.

A great many housewives ask the question, how can I arrange my dining room so that my table will show off to the best advantage? If we were to suggest any rule, we would say, arrange your table with simple effect, to exhibit to the best advantage its artistic qualities. Try and collate harmony of colors so that the eyes of your guests may take in at a glance the entire range of the table and its furnishings.

The best rule to follow in table decorations is to aim at simplicity, not to overload a table with ornamentation of any sort and to avoid a sense of confusion.

As a matter of course, the table must be laid with a white and spotless linen tablecloth, glass must be sparkling and silver well polished. It depends on preference whether a center-piece of handsome lace is used.

The choice of flowers for the center is limited only by what may be one's resources. Flowers, leaves or berries that are reasonable are always in good taste. Roses, hyacinths, chrysanthemums, carnations or lilies-of-the-valley are beautiful, care being taken to select one kind of flower and one prevailing color. Flowers with a heavy fragrance should be avoided. A very satisfactory center-piece is a dish of growing ferns. If no flowers or ferns can be obtained, an ornamental piece of silver may do service as a center-piece, or fruit may be massed on a silver dish. A few sprays of fresh and glistening dark-green leaves add to the beauty of the fruit.

Formerly high ornamentations were in vogue but they have gone out of date and are obsolete. Today, low decorations obtain, and bouquets of harmonious colors produce the better effect. The simpler the decorations the more pleasing they are and the more popular.

An important consideration is the lighting of the table. The lights from a chandelier over the table should not be too brilliant, and the more becoming lights will be from shaded single candlesticks placed at regular intervals about the table. Old-fashioned silver candlesticks or candelabra are treasures to be used. The best effects in color may be had by the use of candle shades, the choice being governed by the scheme of color determined on for the occasion: pink shades should be used when pink flowers are chosen; red when decorations are of holly, fruits or scarlet poinsettias; pale green or white when the center-piece is of ferns or of white flowers; pale yellow when the flowers correspond in color, but yellow is considered by some not a becoming evening color scheme.

If a center-piece of flowers is not used and there are no candlesticks or small shaded lamps, a pretty way is to have a few cut flowers in four slender glass vases placed at regular intervals.

There may be two compotiers or dishes holding fruit. Small dishes of silver or cut glass containing bonbons, salted almonds, candied fruit and stuffed prunes may be arranged symmetrically on the table.

It is essential to the attractive appearance of a table that each place shall be arranged evenly and according to the established rule: Three forks at the left, three knives, a soup spoon and an oyster fork at the right, the glasses grouped uniformly at the head of the knives. A place plate, with the napkin folded plainly and a roll within it is laid for each person.

If grape fruit is to be served as a first course, an orange spoon should be at each place at the right, instead of the oyster fork. Oysters on the shell being slightly out of favor at present, grapefruit is the accepted substitute as an appetizer.

Place cards are in good taste when plain white, rather larger and heavier than a visiting card, and with bevelled gilt edges. The name of the guest is written legibly on the card by the hostess, whose duty and pleasure it will be to place the cards and give the last touches to beautify the table before the guests arrive.

"Thank God every morning when you get up that you have something to do that day which must be done whether you like it or not. Being forced to work and forced to do your best, will breed in you temperance and self-control, diligence and strength of will, cheerfulness and content, and a hundred virtues which the idle will never know." —Charles Kingsley.

BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

CHILDREN'S TASTE IN READING.

There is a revival of interest in the question of reading for children, as the new reading list for them, published by the Boston Public Library, shows. There was a time, some years ago, when the one requirment for children's books seemed to be abundant pictures. The text might be foolish or false; if the illustrations were taking, the book prospered with young readers. That unhappy state of things has fortunately passed.

A list of questions has recently been sent out to boys and girls in Chicago calling for their opinion in regard to books. About three thousand replies have been received and tabulated. They show conclusively one encouraging fact. The books best liked by children are books which "grown ups" also read with satisfaction.

"Little Women" heads the list, and "Uncle Tom's Cabin," "Robinson Crusoe" and "The Count of Monte Cristo" are high in favor. "Alice in Wonderland," "The Arabian Nights," "Grimm's Fairy Tales," and "Hawthorne's Wonder Book" testify to the perennial reign of the imagination. "Black Beauty" and "David Copperfield," "The Boys of '76," Huckleberry Finn" and "Ivanhoe" show there is variety of taste, and that human interest is potent with the child as with the parent.

It is curious to see "The Lamplighter," that romantic tale of forty years ago, holding its own in face of the arc-light. But a good story defies the assaults of science as of time.

In the hundred books selected by three thousand children, it is surely hopeful to find only a dozen without enough literary merit to commend them to all readers.—Youth's Companion.

CHANCE FOR YOUTHS ON FARMS.

"Bright young men," says James Wilson, Secretary of Agriculture, "are needed in the country. The opportunities offered by the cultivation of the soil seems to be as great as in any other field. So far, however, little effort has been made to overcome the general belief that there is always a large amount of drudgery connected with farming and that the chances are narrow and limited

"Bnt isn't hard toil a necessary condition to farm life?"

"It is hard work to run a farm, very hard work, and always will be. There must be hard work everywhere.

"But times and methods are rapidly changing in all respects. We are entering a transition period, in which cheap wood construction of former years is giving way to permanent structures of stone, concrete and iron. Farm houses, through better water supplies and sanitation, are being made as convenient as those of a city. Moreover, no more significant change is taking place in American agriculture than the extent to which different kinds of motive power are taking the place of men and animals. The use of the traction engine and automobile in the place of the horse on the country roads the employment of gasoline, steam, wind and electric power to operate mowers, threshers, plows, feed cutters, corn huskers and dairy machinery are illustrations of epoch-making changes that are now going on among modern American farms. On one ranch in California there is $60,000 worth of farm machinery operated by some other power than animals or men.

"If a young man with $1000, or perhaps only $500, wanted to become a farmer, where should he go and what should he do?"

"That is an academic question," the Secretary answered. "It takes money to farm. A man can't go anywhere nor do much of anything without capital."

Against the testimony of James Wilson may be put the observations and experiences of David Rankin of Tarkio, Missouri, whose remarkable achievements are often referred to by Secretary Wilson's experts in soils plants, and farm management.

"I just farm," he says, "and pay no attention to science."

Twenty years ago he was poor. Now besides his land, he owns a bank, a telephone company, an electric light plant and a water works. He has given $300,000 to the Tarkio college and large sums to the United Presbyterian church. "The way to succeed," he asserts, "is to hustle. If a man hustles he can borrow all the money he needs." Debt with him, when he is fortified by industry and good sense, is a sign of success."

FURNITURE FOR THE HOME.

Talking with a San Diego farmer's wife, the other day, about the inconvenience housewives have to undergo in doing their work, she made the remark, "men buy the best machinery they can find to do their work, while women skimp along with little or nothing, in the kitchen, and work at great disadvantage."

We could not help acknowledging the truth of this suggestion, but we thought while this lady talked, of what we had read in a reecnt magazine about furnishing the kitchen and the parlor. The writer went on to ask, and we quote here without knowing our authority, if a home cannot be completely furnished throughout, which should be slighted, the parlor or the kitchen? Some one says, "The parlor should come first, of course, for that is where we take our company." Many a home is fashioned after this style. The parlor is well furnished while the kitchen is in dreadful shape, as if the owner thought, "Oh, anything will do in the kitchen."

The mother is the one who has to suffer if just anything is made to do in the kitchen. Did you ever count how many more hours she spends in the kitchen than she does in the parlor? If everything were made convenient in the kitchen, the proportion might be lessened a little. Where there are young people in the family there is double inducement for having the parlor nicely furnished, for they like to have their company; but, even then, it should not be done to the sacrifice of the kitchen.

Kitchen work is tedious and tiresome at best, but much can be done to alleviate the work by having good kitchen furnishings and by having things conveniently arranged. Many who have plenty of cupboards and tables do not have them conveniently placed, so that many extra steps are taken in doing the work. If the household funds are sufficient to get all things necessary and convenient for both parlor and kitchen, all well and good, but a piano and a rickety washing machine do not go well together in the same house. If one is to be skimped, we hope the decision will be made in favor of the kitchen.

THE BOY WHO SHIRKS AND THE BOY WHO WORKS.

There are boys of both kinds in the world, but happily, the boy who shirks is very much in the minority. This is true because the average American boy has too much pluck, too much pride, too much ambition to be classed with the shirks. He may not be able to say in his very heart of hearts that he likes to work, but he can say that he does not propose to be classed with those who "stand around all the day idle," thereby bringing upon himself the deserved contempt of the better class of people in the community.

Every high-spirited boy detests a down-right shirk, and admires the boy or the man who does things—who brings things to pass, and who counts for something because of his own achievements. Every boy of spirit admires the hustler and has contempt for the dawdler. I once went to the funeral of a man seventy-five years of age, and on the way home a man who had known the dead man nearly all of his life said of him:

"There was a man who dawdled away a life that might have been one of splendid achievements, for he was naturally an extremely gifted man, but work he would not, and he shirked everything that he could. His wife supported him by going out as a dressmaker up to the time of her death, and he nearly starved after that. A few of his old friends have to pay his funeral expenses to keep him from being carried to a pauper's grave. A man of good family, respectable enough in morals and of more natural talent than most men, his life has been a flat failure because of his own slothfulness."

I know several boys whose end may be like this if they do not "look a little out." They have good natural ability and good sense enough to know that if they would succeed in life they must pay the price of success, and that is—work.

Never in the history of our country was there a time when there were better opportunities for the boy who is willing to work, and never was competition for the higher places sharper. The shirk and the boy who is looking for a "soft snap" are "dead sure" to be left far behind the eager, alert boy who is so little afraid of hard work that he is not at all anxious to find a "soft snap." The boy who is looking for a "snap" of this kind has in him all the elements of the shirk. I one day overheard two boys speaking about a third boy not long ago, and one said to the other:

"He! Bah! he's a regular jelly fish! Lazy? A snail has more hustle and more muscle than he has or ever will have if he doesn't bestir himself soon!"

Pretty scathing, wasn't it? But people are apt to be scathing when expressing their opinion of the shirk, just as they are apt to be highly laudatory when speaking of the manly boy who is known to be a hustler. Mere inclination has nothing to do with it, boys. Whether you want to or not you must be workers if you ever expect to "amount to anything" in this life. That's the gospel truth.—The American Boy.

Varnish on Furniture.—A scratch which goes no deeper than the varnish on furniture may be healed by holding a redhot poker an inch above it for half a minute. When the place cools rub it well with a mixture of alcohol, olive oil and cider vinegar in equal quantities. This also makes a cheap and excellent furniture polish and will remove white spots from varnished furniture.

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trade-marks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phones 347

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

BROCK AND FEAGANS
JEWELERS
IMPORTING AND MANUFACTURING
ANNOUNCEMENT
Our illustrated Fall and Winter Catalog No. 21 is now ready for mailing and will be sent free upon request.
Discriminating purchasers who desire to be shown the very best and latest productions in jewelry should not fail to write for it.
Every article sent subject to approval.
All shipping charges are paid by us.
Comparison of prices always welcome.
LOS ANGELES, CAL.

Oh! What A Difference
IN THE MORNING
Especially wash day morning when you use a
WHITE LILY WASHER
JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY
WHITE LILY WASHER CO.
1539 Rockingham Rd, Davenport, Iowa

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125.00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS
411 Market St. San Francisco, Cal.

ORPHANS RECEIVED.

The following named children have been admitted to the Boys' and Girls' Aid Society of South Pasadena, Cal., since the last report:

Jewel Sternberg, Ger., half orphan, light brown hair, light brown eyes, 8 years old; Marian Sternberg, Ger., half orphan, blonde, 2 years old; Albert Williams, Eng., half orphan, brown hair, blue eyes, 8 years old; Bruno Yimez, Mexican, orphan, black hair, black eyes, 9 years old; Louis Yimez, Mex., orphan; black hair, black eyes, 8 years old. Lucia Yimez, Mex., orphan; black hair, black eyes, 2 years old. Emil Stern, Ger., half orphan; brown hair, blue eyes, 11 years old. Laura Higuero, Mex., half orphan; black eyes, black hair, 12 years old. Nora Manes, Amer., half orphan; blonde, 12 years old. Georgia Manes, Amer., half orphan; blonde, 9 years old. Josie Manes, Amer., half orphan; blonde, 6 years old. Claud Manes, Amer., half orphan; blonde, 4 years old. Frank Alfrado, Mex., half orphan; brunette, 8 years old. Neva Jester, Amer., half orphan; brown hair, blue eyes, 8 years old. Edmond Kassold, Ger., half orphan; blonde, 12 years old. Oliver Morgan, Amer., half orphan; brown eyes, brown hair, 10 years old. Florence Mefford, Amer., half orphan; brown eyes, brown hair, 7 years old. Ella Kendall, Amer., half orphan; brown eyes, brown hair, 4 years old. Isidoro Ortiz, Mex., half orphan; brunette, 8 years old. George McAuley, Scotch, half orphan; brown hair, blue eyes, 6 years old. James McAuley, Scotch, half orphan; brown hair, blue eyes, 5 years old. Margaret McAuley, Scotch, half orphan; 4 years old. Frank Flores, Mex., half orphan; brunette, 8 years old. Grace Welty, Ger., half orphan; brown hair, brown eyes, 10 years old. May Welty, Ger., half orphan; brown hair, brown eyes, 12 years old. Grace Parry, Mex., half orphan; brunette, 11 years old. Beatrice Parry, Mex., half orphan; brunette, 6 years old. Emil Robinson, Amer., half orphan; blue eyes, light brown hair, 8 years old. Alfred Robinson, Amer., half orphan; brown eyes, light brown hair, 3 years old. Frank Digiovana, Italian, orphan; brunette, 12 years old.

MARGARET BOYNTON, Supt.

Los Angeles Markets.

Los Angeles, November 9, 1905.

Butter.

Light receipts and firm demand are the features of the butter market.

B. of T. Creamery, per roll 67½
Valley Creamery, fancy .....65@67½
Coast Creamery ... .55@57½
Fancy Dairy ....50@52½
Cooking 28

Cheese.

Cal. 3-lb hand 18
Cal. Young America 17
California Anchor 16
Northern ....13@13½
Eastern ....15@16
Domestic Swiss 16½
Imported do 28

Eggs.

Fresh ranch are scarce and firm as quoted.

Eggs, Fresh ranch ....41@43
Eastern and Storage ....28@30
Seconds 33

Poultry.

Poultry is scarce and in keen demand.

Fryers, 2½ lbs 15
Broilers, under 2 lbs, per lb 17
Young Roosters, per lb 14
Hens, per lb 15
Ducks, per lb 12
Geese 12
Turkeys ....18@20

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt 5.75
Prime Steers, cwt 3.50
Cows, cwt..... ....2.85
Calves, cwt 4.50
Sheep, ewes, per head 3.25
Lambs, do 3.25
Wethers, per head 4.50

Potatoes.

Northern, per cwt 1.10
Locals, per cwt 75
Sweets, white, per cwt .....90@1.00
Sweets, yellow ....1.00@1.40

Vegetables.

Onions have again advanced and peas and beans are a cent above last week's prices.

Onions, Silver Skins, sks...$1.25@1.50
Onions, yellow, per cental ..1.20@1.30
Beets, per 100 lbs 75
Cabbage, per sack ... ...40@50
Cauliflower, per doz. ... .30
Bell Peppers ....4@5
Cucumbers, per box ... ...45@60
String Beans ....4@4½
Wax Beans 3
Green Onions, doz bunches ....20@25
Carrots, doz. bunches 30
Turnips, doz. bunches .....25@35
Garlic ....6@8
Celery, dozen ....25@35
Peas, per lb ....4½@5½
Egg Plant ....3½@4
Chili Peppers, green ....2@2½
Chili Peppers, dry ....15@20
Tomatoes, local ... ...35@50
Parsley, per doz. bunches ... .30
Summer Squash, bx 20 lbs ...25@35
Green Corn, per sack ... ...75@1.25
Lima Beans ....4½@5
Rhubarb 2½

Citrus Fruits.

Valencias ....$3.50@4.50
Lemons, standard ... .1.50@2.00
Lemons, fancy ....3.50@4.50
Grapefruit ....2.00@3.00

Fresh Fruits.

Apples, 4-tier Bellefleur .....75@1.10
Apples, 4½-tier Bellefleur .....75@85
Apples, 4½-tier Rhode Is. Grn 90@1.10
Apples, Red Pearmain 1.15
Apples, Gravensteins ... .90@1.10
Strawberries ....10@15
Pomegranates, per crate .....40@50
Peaches, per box ... ...75@1.25
Plums ....90@1.25
Figs, per box ....50@75
Black Figs ....50@75
Muscats ....85@1.00
Tokays ....1.25@1.35
Cornichons, lb ....5@6
Quinces, per box 1.25
Pears, Winter Nellis, per lb 3
Muskmelons, large crates ..2.00@2.50
Watermelons, doz ... .35@1.75
Guavas, per basket ....5@6

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11c; fy, 8½; ch, 7½.

Peaches, fy, 9@10½c; ch, 7½@8c.

Prunes, Santa Clara, 30-40, 8½c; 40-50, 7½c; 50-60, 7c; 60-70, 6½c.

Loose Muscatel Raisins, 2-crown, 4½c; 3-crown, 5c; 4-crown, 6c.

Beans, Dried.

Limas 5.50
Pinks, fancy ....2.90@3.00
Lady Washington 3.00
Large Whites ....3.00@3.25
Black Eyes ....2.50@2.75

Nuts.

Walnuts, No. 1 soft shell ....13@14½
Do, No. 2 ....8@10
Do, No. 1 hard shells 12
Do, No. 2 hard shells 10
Almonds, paper shell ... .16@17½
Almonds, soft shell ... ...17@17½
Peanuts, Eastern ... .7½@9
Peanuts, Eastern ... ...7½@8

Honey

Honey, comb, frames ... .12½@13
White, strained, per lb .....5@5½
Amber 4½
Beeswax ....22@25

Hay.

Barley, new ....12@14.50
Alfalfa, local, new ....11@13
Alfalfa, Northern ....11@12.50
Wheat, new 13.50
Tame Oat, new ....11@14.50

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ....$1.40@1.45
Barley .... 1.10@1.13½
Corn ....1.25@1.30

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran $1.30
Feed Corn Meal 1.55
Middlings 1.40
Wheat ....$1.65@1.70
Cracked Corn $1.50
Corn $1.45
Oil Cake Meal $2.10
Cocoanut Meal 1.55

San Francisco Markets.

San Francisco, Nov. 8, 1905.

Dairy.

There has been scarcely any change in the butter market during the past week, the better local grades ruling a trifle lower, storage remaining unchanged.

BUTTER—Fresh California extras, 27c per lb, firm; firsts, 26c, weak; seconds, 24½c, do.

Eastern Extras, 24½c, steady; firsts, 23½c, steady; other grades nominal; Ladles, extras, 20c, steady; firsts, 19c steady; other grades nominal.

Storage—California extras, 24½c, steady; firsts, 23c, steady; Eastern extras, 24c, steady; firsts, 23c, steady; Ladies, firsts, 20c firm; firsts, 19½c, steady.

CHEESE—New California, fancy, 13½c, firm; firsts, 12½c, firm; seconds, 11½@12½c, firm.

Eastern—Cheddars, 15½c, firm; Flats, 16c, firm.

Western — Cheddars, 14c, firm; Twins, 14½c, firm.

Storage—California fancy, 12½c.

Eggs.

Eggs have remained as for a week past with the exception of an advance of one cent on fresh ranch.

EGGS—Fresh—California ranch, selected, 50c per doz, firm; firsts, 46c, steady; seconds, 35@36c, weak; thirds 34c, steady.

Eastern—Selected, 27½c, firm; firsts, 24@25c, firm; seconds, 20c firm.

Storage—California selected, 27c, steady; firsts, 25c, steady; seconds, 24c, steady; California Store, selected, 25c; firsts, 24c. Eastern, selected, 25c, firsts 23@24c.

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $5@6; Hens, Fryers, $4@4.50; Broilers, $3.50@4; Hens, small, $4@5; large, $6@7; Live Turkeys, per lb, 22@25; dressed turkeys, 24@26c; Ducks, old, $3.50@4; young, $4.50@5.50; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1.25@1.50 young Pigeons $1.75@2.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, fancy, $1@1.25; common to choice 40@85c.

Pears, per box, Winter Nellis, $1@1.75; other varieties, 75c@1.25.

Table Grapes—Per box or crate: Muscats, 60@90c; Cornichon, 85c@$1; Blacks, 50@90c; Verdels, 50@85c; Tokays, 50@90c; Isabellas, —; open boxes, $1@1.50, as to variety.

Persimmons—Per box, 75c@$1.

Quinces—Per box, $1@1.50.

MELONS—Cantaloupes—Per crate, $1@2; Nutmeg Melons, per box, 75c@$1.50.

BERRIES—Blackberries, per chest, nominal.

Raspberries—Per chest, $6@9.

Strawberries—Per chest, Longworth $8@9; large varieties, $4@5.50; Santa Clara, $6@8.

Citrus Fruits.

CITRUS FRUITS—Per box: New crop, Navels, $2.50@3.50; Valencias, $3.50@5; Lemons, $2@4; Limes, $4@4.50; Grape Fruit, per box, $3@4.50.

Vegetables.

VEGETABLES—Tomatoes, per box, 50c@$1.25; Green Peppers, per box, 60@75c; Okra, per box, $1@1.25; Beans, per lb., Green, 5@7c; do Wax, 5@7c; Lima, 5@7c; garden peas, per

lb, 6c; cucumbers, per box, $1@1.50; Summer Squash, per box, $2; Egg Plant, per box, 75c@$1.25; Garlic, per lb, 5½@6c; Marrowfat and Hubbard Squash, per ton, $10@12.50.

POTATOES—Per ctl: River Burbanks, 50@65c; Salinas Burbanks, $1@1.35; Oregon Burbanks, 85c@$1.15; Sweet Potatoes, Merced, $1.40@1.60.

ONIONS—Per sk, Yellow, $1.10@1.20.

Dried Fruits.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, are per lb, as follows:

Apples—Evaporated, fancy, 7¾@8c; choice, 7¼@7½c; standard, 6½@6¾c; Sun Dried, nominal.

Peaches—Crawford, fancy, 9c; choice, 8¼@8½c; standard, 8c; Muirs, fancy, 9½@10c; choice, 8½@9c; standard, 8¼c.

PRUNES—On a 3@4c basis for the four sizes in bags, f. o. b.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Apricots—Royal, fancy, 9½@10c; choice, 7¾@8½c; standard, 7¼c; Moorpark, fancy, 12c; choice, 8½@10c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded, 3½c.

RAISINS—Crop of 1905, f. o. b. Fresno: Imperial Clusters, $3 per box; Dehesa, do, 5-crown, $2.50; 4-crown, $2; 3-crown, $1.50; 2-crown, $1.40; 4-crown loose Muscatel, 6½c per lb; 3-crown, 6c; 2-crown, 5¾c; Seedless Muscatels, unbleached, 3½c; Sultanas, 4@6c; fancy Seedless, 6½c; fancy Seeded, 16-oz, 7¼c; do, 12-oz, 5⅝c; choice Seeded, 16-oz, 7c; do, 12-oz, 5⅝c; London Layers, 3-crown, $1.50; 2-crown, $1.40; Thompson's Seedless, 6½c; bleached, fancy, 9@10½c; bulk, choice, 8c; standard, 7c.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Beans and Peas.

BEANS—Prices per ctl: Large White, $2@2.40; small do, $3@3.25; Pea, $3.25@3.75; Lima, $3.40@3.50; common shipping points, $3.20; Red, $3@3.50; Pink, $1.75@2.15; Bayos, $3.50@3.75; Blackeyes, $4.40@4.60; Red Kidney, $3.50@4; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $1.75@2; Green, $1.75@2.25; Field, $1.50@2.

Live Stock.

Conditions throughout all departments of the Live Stock market are purely a reflection of the features thoroughly reviewed for some time past. Sheep continue in scant supply and rule strong at full quotations and A1 Steers and Lambs snare second place interest at firmly held rates. Calves and Hogs are plentiful at the familiar prices.

CATTLE—No. 1 Steers, 6½@7; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers 5@5¼c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c; Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 3¾@4¼c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hay and Cereals.

HAY—Wheat, choice, $16@16.50 per ton; other grades of Wheat or Wheat and Oats, $11@13.50; Oats, $7@12.50; Stock, 6@7; Alfalfa, $8@10; Straw, per bale, 30@55c.

WHEAT—No. 1 Shipping, per ctl, $1.36¼@1.40; inferior grades, $1.20@1.35; White Milling, good to choice, $1.40@1.43¾, and $1.45 for fancy.

BARLEY—Choice No. 1 Feed, $1.20@1.25; same fancy grades up to $1.26¼; common to fair, $1.15@1.18¾ inferior grades, $1.10@1.13¾; Shipping and Brewing, $1.26¼@1.30; Chevalier, nominal.

OATS—Good to choice White, $1.35@1.45; Red, $1.50@1.62½ for choice to fancy; $1.15@1.32½ for common to fair; black, for seed, $1.60@1.70; lower grades, $1.25@1.55.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large, Yellow, $1.45@1.50; small do, $1.60@1.65; White, $1.40@1.45; Eastern Yellow, $1.40@1.42½; White, $1.40@1.42½; mixed, $1.35@1.40.

CITRUS MARKETS

Citrus.

The new orange crop is beginning to move, but not in quantity sufficient to establish a market. Owing to the elections in many Eastern cities, auctions were not held Tuesday, but Wednesday showed a keen demand for all old crop arriving in good condition. Lemons maintain a strong tone, with light supply.

New York.

One car each of lemons and Valencias offered Monday. Both consisted of choice fruit and prices were firm. Golden Eagle oranges brought $5.45 on an average, while Old Mission brand ran from $6.37 to $7.91, as to grade. Lemons brought $4.69 to $6.90 per box.

Tuesday being election day, no sales took place.

One car of lemons offered Wednesday and averaged $2.74 to $3.43 per box, all the fruit was worth.

Boston.

One carload of Valencias comprised the offering Monday, prices ranging from $3.15 to $6.60 per box.

No citrus fruit offered in Boston since Monday.

Chicago.

Orange offerings fairly liberal Monday, but prices were good, running $2.65 to $6. Lemons brought $4 to $5 per box.

Late Valencias sold Wednesday at $5@6 per box. New Floridas brought $2.65@2.75.

An average of only one orange a week for each of 90,000,000 people would mean an annual consumption of 31,285,700 boxes.

An average consumption by each of these 90,000,000 people of one orange a month would absorb the crop.

TREES IN THE LANDSCAPE.

(Continued from First Page.)

answers many purposes of the manufacturer and cabinet maker. It grows very rapidly, yet has a firm grain and takes a good polish.

Then again for beauty and for use I would plant about the house and in corners and waste lands Mr. Burbank's Royal Hybrid Walnut. Wherever soil and climate are suitable, I would graft it to the best Persian walnuts, but the tree itself, its grace and vigor, its rapidity of growth, the beauty of its foliage and the fine and valuable lumber which it yields makes it a tree to be put first in the list.

When a boy on the old farm in Ohio, I watched through successive summers the airy grace of a tree at the bottom of the meadow, half a mile away, and I have never lost these glorified trees out of the golden weather of the days long gone, and a vision of it comes back as I go up and down in this land so made for beauty, and I wish that I might set some of the quick growing trees I have mentioned about naked homes and graceless ranch buildings and invoke the lavish mood of California seasons to clothe the ugliness with beauty and comfort.

We do not realize, I think, the power of trees to modify the landscape, nor the effect of their cheaply purchased beauty upon the open heart and mind of a child.

In Ulistan it is said that "of the many celebrated trees which the Most High God has created, lofty and umbrageous they call none azad, or free, excepting the cypress, which bears no fruit," and if I could not have an orchard, I would at least have one tree which should be called "azad"—free, fruitless delivered from the work of providing an income, and devoted by its grace to the higher ends of feeding the mind.

It is part of our business to keep the world beautiful, or help to make it so, and haply in some of the prosaic work which has bread and butter for its end, the beautiful and the useful go together. That evergreen grove behind the barn, or growing in some waste land at one side, seen afar across the plain and breaking the skyline with its lofty grace, will yield two crops, one of pleasure and another of profit. Was it Ulysses, who, returning from his wanderings, found his father planting a tree? Happy the man who is not too old to plant a tree. Said the old wise Scotchman: "Be aye planting a tree, Jock; it will be growin' the whiles ye are sleepin'."

FINE BERRY PLANTS.

A stocky plant with a good root is Mr. Frank P. Baldosser's aim in growing berry plants for the trade. He has a few plants of a new introduction, the "A 1" which is said to be one of the best fall producing plants for California. We recently saw his men picking some beauties at his Covina ranch and the plants were well filled with bloom for another crop.

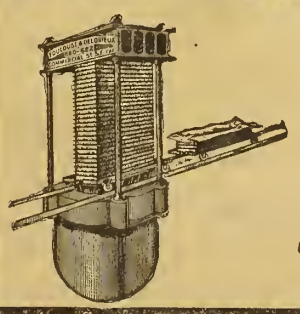
Of Brandywines he has some fine plants from the Kellogg Strain. Of those he has a large quantity.

The Cultivator has recently had several calls for information on the subject of semi-arid cultivation, or Campbell's system of dry farming. In a week or two we hope to discuss this subject intelligently, giving data of interest as well as methods of operation. We cannot do so this week.

During the year there was landed 4,000,000 pounds of fresh fish, worth $200,000, and 800,000 pounds of sardines were packed in addition, the value being $16,000.

San Luis Obispo County Lands. Best and Cheapest in the State. Rainfall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

WINE AND OIL MACHINERY



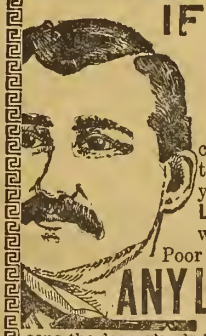
A SPECIALTY

Presses for All Purposes.
Complete Plants Fitted Out.

TOULOUSE & DELORIEUX
618 Commercial St. San Francisco
Catalogue Upon Application

I WILL GIVE $1000

IF I FAIL TO CURE ANY CANCER OR TUMOR
I treat before it Poisons Deep Glands or Attaches to Bone.
NO KNIFE OR PAIN, NO PAY UNTIL CURED.
NO X-RAY OR OTHER SWINDLE.



A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. **3000 CANCERS** cured on people you can see and talk with. **ANY TUMOR, LUMP OR SORE** on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.

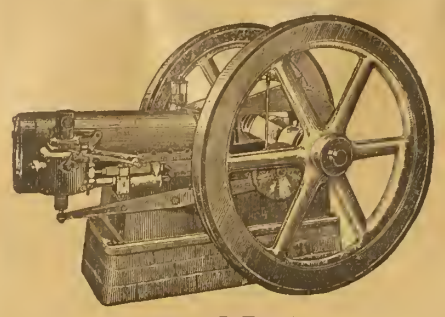
ANY LUMP IN WOMAN'S BREAST IS CANCER

It does not pain until almost past cure, and if neglected it ALWAYS poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK, sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.

DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]
23 AND 25 THIRD ST., NEAR MARKET ST., SAN FRANCISCO.
PLEASE SEND THIS TO SOME ONE WITH CANCER.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

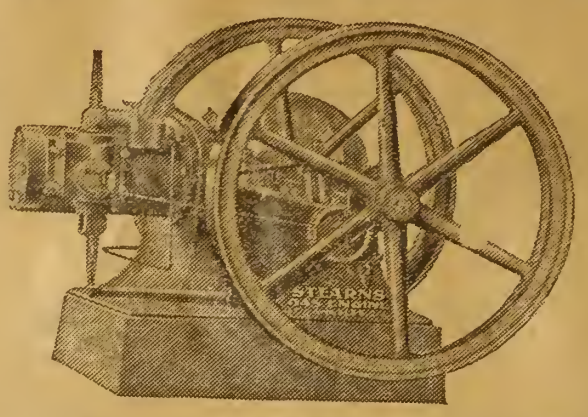
BEST, STRONGEST, SIMPLEST
MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

BUY NOW AND GET SUMMER PRICES
BURNS CHEAPEST FUEL

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use
Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

NATIONAL WOOD PIPE CO.

MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR

WOOD PIPE

WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

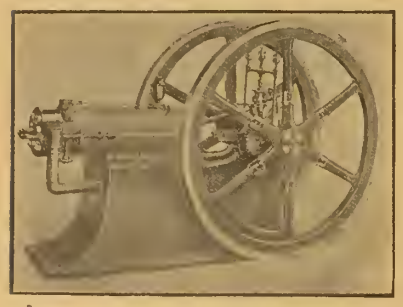
Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

TANKS

Wine Tanks, Oil Tanks, Water Tanks. You can save money by getting my prices. My improved tank is easy to erect. A hammer and wrench are all the tools you need.

R. F. WILSON MANUFACTURING WORKS
STOCKTON, CAL

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

Wm. Gregory
602 North Main St. Los Angeles, Cal.

DEEP WELL PUMPS SHALLOW WELL AND POWER PUMPS

A. T. AMES GALT, CALIF.

OAK TANNED CUP LEATHERS.

For Anything in the Plow Line ask us about the

SYRACUSE CHILLED PLOW CO.'S GOODS

Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the

FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.

Have you seen the "New Harrison Wagon?"

L. A. MARTIN & SON

129 Wilmington St. Los Angeles, Cal.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith Machinery Co., Inc.,

129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes Complete Irrigation Plants

Does This Look Good to You?

It is a 48-inch stream of water flowing over a weir into a pipe line, raised by a NEW POMONA PUMP and ten-inch cylinder.

Write for catalogue.

Pomona Mfg. Co. - Pomona, Cal.

When writing to Advertisers Please mention Cultivator

WHEN WRITING TO ADVERTISERS PLEASE MENTION CULTIVATOR

30.5

California Cultivator

LOS ANGELES SAN FRANCISCO

NOVEMBER 17, 1905

IMPROVED LOQUATS

Hardy in all parts of California, the loquat should be more extensively grown, for no fruit we have has been so much improved of late. Those who know only the seedling types have but a faint idea of the great superiority of the Advance, Premier, Victor, and other well recognized standard sorts. Of these the Victor is the largest, is red cheeked, with a deep-colored flesh; the Advance has a pure white flesh and a clear yellow skin; the Premier is the best of all in flavor, but smallest in size. All are vastly superior to the best type of seedlings.

It is rather a wonder that the value of the loquat as a decorative tree has not been more generally recognized; surely when both its fruit and ornamental values are considered, no small tree we have can compare with it. For a tree to plant in the front yard on the farm, where the owner begrudges the space for one purely ornamental, we urge the use of the latest and best varieties of budded loquats in named sorts.

Courtesy Kruckeberg Press

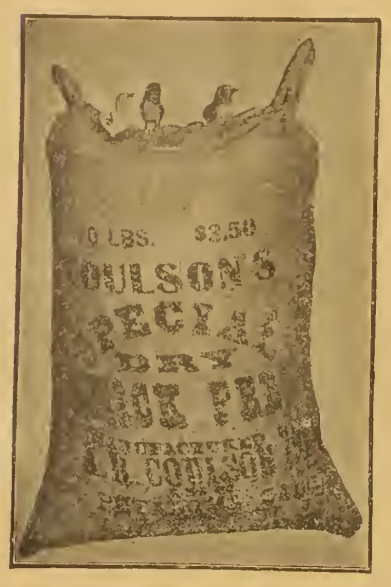
The Advance Loquat (reduced one-half)

$500.00. WHAT ABOUT IT?

Look for a Little Envelope in the 100 Pound Sacks of

Coulson's Special Chick Feed

For Little Chicks and Turkeys



You will have the best success you ever had in raising chickens if you will feed COULSON'S SPECIAL DRY CHICK FEED. Send for sample. It's good for turkeys as well.

This Chick Feed is composed of small pieces of cracked grains, also a variety of seeds and small pieces of charcoal, meat and bone. It therefore contains a variety of the best and most wholesome ingredients in the right proportions to promote the growth of chicks and turkeys and fully nourish them so they will reach maturity early, and be vigorous, strong, healthy birds.

ECONOMY IN USING COULSON'S SPECIAL CHICK FOOD.

By a series of tests it is found that chicks will gain weight much quicker on COULSON'S CHICK FOOD, AND at less cost than those fed on grain.

Chicks fed on COULSON'S CHICK FOOD will reach the weight of two pounds a month sooner than those fed on grains, and they will reach the average weight of three pounds eight weeks sooner.

It is the knowledge acquired through patient study and keen observation which enables us to give the proper feed to poultry in order to raise the largest percentage of the chicks hatched. With COULSON'S SPECIAL DRY CHICK FOOD and COULSON'S GROWING CHICK FOOD many succeed in raising from 95 per cent to 98 per cent of the chicks hatched and you can do as well. TRY IT THIS YEAR.

Mr. Poultryman, there is only one way to buy, and that is, on record of what you want. If you want to raise lots of nice chicks, buy good feed.

COPIES OF LETTERS RECEIVED.

I have fed your Chick Feed since I started this place about September 1st—last—and have sold 3,400 chicks and have 800 on hand now.

A. Mc HORTER.

I like your Special Chick Food better than anything I have ever used.

MRS. GEO. THISSELL, Jr.,
Winters, Cal.

$500. What about it?

I have used your Special Chick Food since last March, and am still using it (July 7th). I believe it to be all right. I have lost less chicks than other years. It is good—the best I ever bought.

R. A. WHITFORD.

I had read so much of your Incubators that I thought I must try one, and I am more than pleased with the one I bought. I have also tried your Chick Food and think it fine. I have to go twenty-two miles to get it.

MRS. MAY LYMAN,
San Bernardino, Cal.

I have used your Special Dry Chick Food and recommend it to all my neighbors.

MRS. IDA L. PARKER,
Eureka, Cal.

I think your Chick Feed is fine. I never lost one while I fed it, and never saw chicks grow so fast in my life.

MRS. HATTIE DEAN,
Mesa, Washington.

Our chicks are doing splendidly on the Special Chick Food. No losses except by accident.

J. HUNTER.

COULSON'S FOODS GIVE BEST RESULTS.

I am a user of Coulson's Chick Food and have raised 1100 chicks this winter. The first hatch I used some other food and lost over sixty. My second I raised on COULSON'S CHICK FOOD, according to directions, and lost only ten. Then in my third hatch I fed COULSON'S CHICK FEED—dry—three times a day for three weeks, and out of 394 chicks, I lost only two, and all are doing fine. Now, chicken raisers in this locality are wondering at my success, and I am praising COULSON'S FOOD as much as I know how. (Signed) F. E. HEUSEL,
Half-Moon Bay, Cal.

We receive much praise for this Special Chick Feed for it pleases the poultrymen and it pleases the chicks.

Many of the large poultry raisers near Petaluma purchase the Special Chick Food by the wagon load.

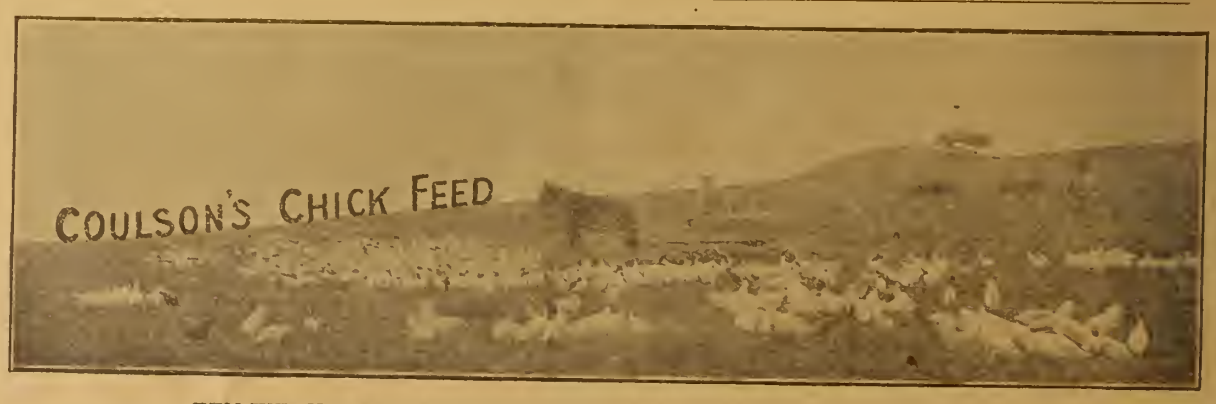
COULSON'S CHICK FOOD

Contains ingredients that long experience in poultry raising has found best adapted to give nourishment to growing chicks. It is promptly digested; causes no indigestion; keeps bowels in normal condition. Chicks show increase in weight, strength and beauty when fed it exclusively. Little chicks need no other food for the first five or six weeks. Save your chicks and make good profits.

Keep them from bowel trouble and all ailments incident to the first five weeks. Profit lies in the chicks you raise to maturity—not in the number hatched. Give them a ration that makes healthy, well developed bodies.

Remember Mr. Bassett sold broilers only six weeks old for $3.75 a dozen. They were fed on Coulson's Chick food

BEGINNING LIFE ON COULSON'S CHICK FOOD.



TEN WEEKS OLD CHICKS RAISED ON COULSON'S CHICK FOOD.

There may be a pleasant surprise in store for you. You will find it in the 100 lb. sacks.

Send me another sack of Coulson's Chick Feed. It seems to be just th thing for young chicks, they are doing fine —H. A. DUN, Tacoma, Wash.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

$500.00. Look for Little Envelope in the 100 lb. sack of Coulson's Special

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 20 LOS ANGELES, CAL., FRIDAY, NOVEMBER 17, 1905 Subscription $1 a Year

Growing a Vineyard from Cuttings

By Chas. F. Collins, Dinuba

The first thing to do in starting a vineyard from cuttings is to prepare the ground. Most people will tell you to prepare the cuttings first, but after trying both ways I find the former much more successful. It should be plowed not less than one foot deep and thoroughly pulverized. Of course it should never be planted unless a reasonable degree of moisutre is present or can be supplied immediately after planting by irrigation. I consider February or March the best time for planting and in the three different seasons that I have tried it I have always been successful in catching the ground in good condition for plowing and planting at that time.

When the ground is all ready for planting go to a good, thrifty bearing vineyard of the variety desired and secure cuttings from well-ripened short-jointed wood of the former season's growth. These should be made from 12 to 14 inches long. This is better than longer for the reason that if placed in the ground too deep the lower end is in soil that is too cold and often too wet, in the spring, to promote good growth. The lower end should be cut just below a bud. Some say square across but I usually cut mine on the slant and they grow just as well. I prefer the upper end cut just above a bud but it is not necessary for the success of the cutting.

I begin at the butt end of a cane and make cuttings from it as long as the wood is of good size and quality. One very important point which I have known many to overlook is to secure the cuttings from freshly pruned vines. Don't go to brush that has laid in the sun, wind and frost for a week to secure cuttings and expect them to grow for the chances are they will not do so.

When you have cut as many as you need to plant in one day take them to the field you have prepared and either heel them in or throw some wet sacks over them and plant as follows: Take a bucket with about six inches of water in it and fill with cuttings with the large ends down so they will be submerged for about one-half their length. This is the best and most convenient method of carrying them while planting that I know of. Dig a hole with a shovel nearly as deep as the length of the cutting to be planted and then loosen the earth below by forcing the shovel down once or twice and shaking it slightly. I always plant by a wire and dig the side of the hole next to the wire straight by reversing the shovel and forcing it down on that side with the back from me. This saves the time and trouble of digging on both sides of the wire and if the ground has been properly plowed it is all loose as far down as the cutting will extend and does not need shoveling only to make room for the cutting. Now place the cutting against the straight side of the hole in a perpendicular position with the top resting against the wire at the proper point and one bud above the ground. If the buds are close together as they are on the best cuttings it will do no harm if two are above the ground, but never allow more than that. Now fill the hole one-half full of the pulverized, moist earth just taken out. Then with one foot press the earth firmly around the cutting. Don't tramp it as you would in setting a fence post, but press firmly. Then fill the hole with loose earth a little more than level with the surrounding surface and you are ready for the next one.

When done planting, if the ground is moist and well pulverized don't think that because they are cuttings they must be irrigated the next day to start them, neither should you expect them to make vigorous growth without any irrigation all summer, unless you have a piece of land that holds moisture better than the average. On average soil and under average conditions as we find them here it is best to give them a furrow irrigation in a week or two after planting, being careful not to flood as that invariably works an injury. By furrow irrigation I mean running water in furrows between the rows in sufficient quantity and for a sufficient length of time to thoroughly wet the soil around the cuttings by seepage. This will settle the loose earth closely around them. Cultivate well as soon as dry enough and continue doing so at intervals of ten or fifteen days, keeping the weeds down with a hoe where the cultivator will not reach them and you can rest assured that 95 per cent. of them will appreciate it enough to make a vigorous growth.

Several years ago in planting a vineyard of rooted vines I lacked about 1700 roots of enough to fill the ground prepared and was unable to obtain more. It was early in March and I was advised to plant the remainder to corn and fill out with vines the following year. I knew of one vineyard in the neighborhood that was not pruned from which I could obtain cuttings so I concluded to try them and if not successful there would be plenty of time to plant the corn afterwards. Accordingly I made the cuttings from canes in which the sap was flowing quite freely and the buds considerably swollen and set them as I have described and only two out of the 1700 planted failed to grow. I I missed a crop of corn from that patch but had a vineyard of which I was proud and sold fifteen dollars worth of pumpkins from it which I raised between the rows of cuttings. The cuttings were planted March 6th and received one irrigation only, on March 21st and sufficient cultivation to keep the soil in good condition. The rooted vines when planted were very large and vigorous and had the same care throughout as the cuttings but in three years from planting no one could tell the difference in them.

No doubt there are many ways of treating cuttings which will prove as

(Continued on Page 478)

Courtesy Cal. Northwestern R. R. Co.

Vineyard in Sonoma County.

BY J. W. MILLS, POMONA, CAL.

FRENCH PRUNES.

Fifteen or twenty years ago growers made good profits on any grade of French prunes, but like all branches of profitable fruit growing, the business was soon overdone and stagnation followed the wake of prune activity. During the past five or ten years only high grade prunes gave remunerative prices and these were not very profitable. The result was that hundreds of acres were taken out principally in the south end of the State. An improved type of prune was now in demand and several new varieties were introduced.

The Imperial prune seemed to take the lead until Burbank's Sugar Prune came out when it promised to take the lead. However, Imperial seems to hold its own, and is today the largest and most attractive prune that is found on the market in quantities.

The Sugar Prune was disappointing in many respects. It proved to be a slow grower with wood so brittle that it was difficult to handle the crop without great injury to the trees. The fruit is of superior quality but quite difficult to handle. In the south the fruit was rendered worthless by checking and cracking all over the surface before it became fully ripe. Like all fruits, attention must be given to the adaptability of the variety to the different sections. No doubt there are various localities in the State where the Sugar Prune will have few drawbacks and in time will be THE prune for those sections. Imperial Prune will no doubt keep the lead for some time to come.

* * *

Planting the Prune.—The manner of preparing the land for a prune orchard is the same as has been thrashed out in conventions and fruit papers for years past despite the new-fangled methods advocated by Mr. Stringfield.

A good strong peach root system, where the land has good under drainage and plum root where it has not, that spreads a foot or more down and across will beat Mr. Stringfield's stubs in this State. The old-fashioned way of topping the trees all one height and making them start a bunch of limbs at the top has been discarded for the method advocated by Wickson some years ago. It consists in allowing the tree to retain its top when planted, whereupon it will proceed to send out branches as nature intended it should, which is in a spiral form so that the branches will be distributed over a considerable length of the stem and on all sides. This prevents the crowding of branches and makes strong heads that enable the tree to bear heavy loads without breaking. It is hard to estimate in dollars and cents the injury that has been done to the prune groves of the State just because the idea got loose that all orchard trees should be chopped off at a certain height.

Curing Prunes.—When the pricking machine was first introduced, it was thought that dipping in lye for the purpose of cracking the skin could be dispensed with to considerable advantage. It was found, though, that while pricking the prunes hastened drying, it left the prune with a heavy skin which was objected to among the buyers. Dipping in lye gave a thin skin to the finished article and for that reason the lye process is still used even when pricking is practiced.

There are various recipes which have been given for the preparation of a solution into which prunes are dipped before packing. One of the best packers in the State uses prune juice only. The first "dip" is made up of low grade prunes cooked till they fall to pieces. The dried prunes are dipped into this while it is at the boiling point and are then immediately packed in boxes and the lids nailed on when they are ready for shipment. This "prune dip' gives the necessary finishing gloss to the fruit and is absolutely healthful. One important packing house has made a reputation on prunes treated in this manner and is particularly popular with foreign trade in Germany.

The dip above mentioned does not have to be made up occasionally during the season, only water is added to maintain the bulk as the liquid becomes "richer" with increased use. It becomes necessary to remove sediment from the bottom when large quantities of prunes are processed as the dust and grit that is removed from the surface of the fruit by the hot liquid, settles to the bottom. Exhibitors sometimes make a solution of glucose in which to process their prunes so as to give them an extra finished appearance, but there is nothing that will equal a bath of strong alcohol for this purpose, the stronger the alcohol the better.

APPLES FOR THE PACIFIC COAST.

If I were planting an apple or other fruit orchard and desired the best immediate and future results I would seek the best varieties that have originated in that particular region. They are the natural product of the conditions of soil and climate and adapted to their environment. While we know of no limit in the direction of improvement nature makes no mistakes in its constant effort to produce the best under the conditions. The conditions of soil and climate may be but local, or of small extent in some sections; in others extending over a wide territory. Sometimes we find similar conditions in a well defined and continuous zone-like belt, modified in sections by other influences, or may be broken into different divisions, but a general adaptation recognized throughout its limits. To understand these local modifying influences and their effect is, or should be, the first step in all horticultural effort. What we so often of late see referred to as "the great Ozark apple region" is really but a section of the great belt that, beginning in the Appalachian region of the East, cut off by the warmer climate influence of the Mississippi reappearing in the Ozarks and extends like a widening delta, broken in places by the higher ridges of the Rockies to the Pacific where it is deflected by the peculiar coast influences far to the north into British Columbia.

And now, for the second problem presented, "the modification in form and color of those apples when moved from the middle west to the northwest." That there is a decided modification in the size, often in the form and color and other characteristics is becoming well known, and in most of the varieties, the change is in the line of improvement—size larger, color brighter, form more robust and when grown under proper conditions, with a quality that cannot be excelled. The abundant rainfall of the winter months or irrigation when scanty, in sections where our finest apples are grown and the almost cloudless sunshine of the summer, combined with the rich, deep soil gives them a new development. The genial environment found in their new home seems to give them greater productivness and add a new life to their latent powers.

The growth and development of each succeeding generation, if under improved conditions is likely to show something of the potentiality of the generations before. New power of development, new beauties, new varieties are produced, and as the apple is taken on westward through the valleys and mesas of the Rockies and into the more genial climate of the Pacific Coast, what more natural than to expect a development of its higher qualities?

I am not forgetting the apple region of New England, New York and parts of Canada, of its production of such grand old worthies as the Baldwin, R. I. Greening, Newton and the Spitzenberg. The northeastern conditions seem to be peculiar to that section and the new varieties that have had their origin in the middle west show but little influence from that source. The Ozark apple came with the migration westward from Virginia, North Carolina and that southern section of the eastern apple region and nearly all show the typical character. The improvement under the newer conditions has been wonderful. What may be the final result in the farther west as new varieties are produced from the blending of the different life strains as they are now mingling here from almost every source can as yet scarcely be predicted, but as so many varieties, not only from the middle west but from other localities grow to such fine development here, we have reasons to hope for some new creations that will be an honor to this shore of the newest New World.—Frank Femmons, Home Orchard, Cal.

In every California vegetable garden there ought to be leeks growing the whole year. It is no trouble to have them, as they grow easily anywhere. When the plants are about pencil size transplant them in rows about a foot apart and six inches in the row.

THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

Thompson's Seedless Grapes
Rooted Vines, $4.00 per hundred. Write
E. E. GERRY, SANTA PAULA, CAL.

600 Almond Trees For Sale
The Nonpariel, I X L, Ne Plus Ultra, Hachе's Prolific, Drake's Seedling. Height, 3 to 7 feet. Prices on application.
Isaac Martin - Merle, Cal.

California Concord Grapes and Kadota Figs
The undersigned makes a specialty of propogating the new variety of table grape known as the California Concord, and has 2000 vines for sale. Also the Kadota Fig Tree, which while resembling the White Pacific, is larger and sweeter, and the tree much excels the White Pacific in vigor of growth and productiveness. I have also my usual supply of soft shelled English walnut trees raised from selected nuts. S.H.Taft, Semi-Tropic Nursery, Sawtelle, Cal.

Berry Plants and Grafted Walnuts
Grafted Walnuts on both the Native Black and English Walnut Roots Also Santa Barbara Softshell Seedlings. Crandall Blackberry, Brandywine Strawberry and Loganberry Plants. Prices on application.
Toluca Nursery, G. Tosetti, Prop., Toluca, Cal.

THE VERNON NURSERY
4524 Central Avenue, Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL, Prop.

VINES
Rooted Vines, all varieties, on their own or resistant roots.
Minnewawa Vineyard, Fresno, Cal.

BLUE GUMS
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity.
Geo. B. Warner, Santa Ana, Cal.

Grape Vines
Wine, Raisin and Table Grapes on their own roots and grafted on Phylloxera Resistant Roots.
Write for our prices on everything in the nursery line. We can refer you to satisfied customers in every locality.
Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c postage.
Fancher Creek Nurseries, Inc.
Paid up Capital $200,000
Geo. C. Roeding, Pres. & Gen'l Mgr.
FRESNO, CALIFORNIA
Growers of Trees and Vines of All Sorts

CHICO NURSERY CO.
Our Specialties:
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS
Complete Line of
FRUIT TREES
and
ORNAMENTALS
Agents Wanted
Third and Walnut, CHICO, CAL.

Conducted by Prof. A. J. Cook, Claremont

BEES IN EUROPE.

The beekeeper, especially in the British Isles, cannot hope to gain a living from his bees alone, and so beekeeping is usually—always, in fact—tacked on to some other business. The very frequent rains and cold, damp atmosphere, makes the business precarious. The nectar produced by the flowers is lessened and the bees are restrained from gathering. Thus there are very few large apiaries in Great Britain, almost no specialists, and so the art is not advanced as in America nor are the methods anywhere near as perfect. I am told that there is but one person in all the country that depends solely upon his bees for a livelihood, and his results are far from encouraging. Yet there are many bees on the islands. The hard struggle for food and raiment leads men to search in all, or any direction that promises gain. Thus there are a swarm of small beekeepers, each with a few colonies of bees, which as the years go by give a little toward the support of their owner. Of course the art cannot advance under such conditions, as it will with us, where a single beekeeper will often ship honey by the carload.

* * *

BEES IN INTENSIVE AGRICULTURE.

It is often preached in America that Europe is far ahead of us in the productivity of her agriculture. It is said that the European farmer practices "intensive agriculture," I believe. This statement will bear examination, I believe. We of California are away ahead of Europe in our methods and results. We have far more brainy farmers, and I have seen no such evidence of thought and study in Europe as I see everywhere about us at home. In one respect Europe may eclipse us—and she certainly does surpass many localities in our country in this regard. In Europe there is no prejudice even in the greatest fruit regions, against bees. As I stated above, the number of small beekeepers is great, and so the number of bees everywhere is surprisingly large. There is no question but that bees are of tremendous importance in the work of cross polinating the flowers of very many of our most valued orchard, field and garden crops. In Europe, everywhere, this work is well done to the great gain of the producer. I have made as close a study as I could while here, and I see no other evidence of superiority in methods and work.

* * *

EUROPEAN MARKETS.

I have been surprised to find so many kinds of California fruits in Europe. We have found apples, pears, prunes, plums, and even peaches, here, still in the boxes of the California orchardists. Indeed, the best pears, prunes and plums that we have secured have been from our own State. I attended an auction sale in Covent Garden, London, and was delighted with the appearance of the plums, apples and pears from our own California. These were not only fine in appearance, but were evidently appreciated as the lively bidding and high prices gave quick evidence. The auctioneer took pains to make it clear that the fruit was from California, which fact in itself was significant. We have been pained at the very high price of fruit in all sections of Europe that we have visited. Surely the poor people, and this means the great mass of the citizenship, can rarely ever more than look upon the tempting apple or pear. It seems very probable that with more pains to develop it there will be a splendid and remunerative market for very much of our California fruit over the seas. This will be more true when the canal is completed.

* * *

ORANGES IN EUROPE.

I was rather late to study the orange market in England, though I am told that our navels are highly appreciated. I did see a few Valencias, but only a very few. Surely if plums and prunes can be safely and profitably marketed in London, Paris and Berlin, then why not oranges? I feel sure that we shall have a field in Europe for much of our citrus fruits as well as for the best shipping deciduous fruits. The work was well begun and may wisely be pushed with fullest vigor to our own benefit and that of the purchasers.

* * *

EXHIBITIONS.

It was our pleasure to attend, while in Edinborough, one of the finest exhibitions of fruits and flowers that it has ever been my privilege to visit. It was that of the Royal Chaldonian Society. Of course we in California could distance them in variety and quality of fruit, but in floral display, great as are our possibilities, we could not measure up with our British cousins. The orchids, especially, were wondrous beyond compare. The grouping and arrangement were most admirable, and surely the educative effect of such an exhibition must be most excellent. The judges had made their examination and given their decision before the exhibition opened. Thus as visitors came to the various exhibits, they could at once see what was the judgment of experts in reference to the comparative merits of the fruits and flowers, and so the educative effect of the exhibition was not a little enhanced.

Farm Lands in Kings and Tulare Counties

Unsurpassed for raising Alfalfa, Hay and Seed, and for raising and fattening Hogs, Cattle, Horses and Mules. Corn, Wheat, Grapes and Deciduous Fruits produce immense crops and large profits.

SOIL

The soil is a rich sedimentary deposit composed of tule roots, shells and silt left by the receding waters of Tulare Lake which many years ago covered these lands.

WATER SUPPLY

Sub-irrigated at about 9 feet. In one of the best Artesian Belts in the State. Fine water for stock and domestic purposes at from 35 to 65 feet. Almost an inexhaustible pumping supply at 80 to 150 feet.

PROFITS FOLLOW IMPROVEMENTS

Several Hundred Thousand Dollars now being expended on our lands for improvements.

Seven rigs now boring artesian wells.

Three steam plows turning 82 furrows and large gangs of teams now plowing and cultivating on our lands.

Thousands of acres now being prepared for planting to orchards, vineyards, alfalfa and grain.

For particulars see

Fine alfalfa lands $30 per acre and up. Larger tracts $15 per acre and up. Easy terms. Liberal rebates for immediate improvements.

Wanted—Practical experienced farmers who fully understand alfalfa and fruit raising, to rent tracts of 40 to 160 acres. Liberal terms. Outside work can be secured while crops are growing. Must have teams and implements or some means. Houses and barns furnished.

Special excursion next Tuesday night. About one-half fare.

SECURITY LAND AND LOAN COMPANY

Home Savings Bank Building, Cor. Spring and Court Streets, Los Angeles, Cal.

Sorghum Cane Molasses

By F. B. Pettengill, Burbank

Making sorghum molasses requires, like making butter and many other good things, the greatest care and good judgment if we would excel the common "rif-raff" of stuff commonly called sorghum. We must not only consider the method of handling the cane and its products after it is delivered at the mill, but must see that the cane has been planted in proper soil, properly cultivated and carefully harvested.

Choose a light, warm soil; new land is best. Particularly avoid a black bottom land, or land recently manured. The young cane should have water enough to give it a vigorous growth, but when it approaches full size use water sparingly for all the extra water must be evaporated and that is expensive and injures the grade of the molasses, sometimes seriously. When the cane is headed and in bloom, take the corn knife and cut off all heads except a few hills here and there, or enough for seed; if you care to save any.

The hills that are not cut back tells when the cane is ready to be harvested.

When the seed left on the "pilot" hills, is thoroughly ripe, take the stripping knife, (made of wood and shaped like a corn knife and long enough to reach the tops of the standing hills) and with smart down stroke of the blade close to the stalks, all leaves and new heads will be removed in short order. Now the cane is ready to cut. Do not cut too close to the ground.

Leave at least one joint on the stump and be careful not to let the ends of the stalks touch the ground, for dirt will stick to them and perhaps finds its way into the molasses.

The mill is usually a three-roller affair, one large and two small rollers; the two small ones running against the large one. This gives the cane two squeezes at one operation. The last roller must be set up tight enough to get the last drop of sap that can be squeezed out, and this lest drop is the sweetest of all.

The sap should run through a strainer as it leaves the mill, pass into a vat or a barrel, and by a pipe to the evaporator. Have the evaporator enough below the mill that the sap will run by gravity if possible.

Now the evaporator can be any size to suit the acreage planted, and the one horse outfit can turn out as fine a product as a ten thousand dollar plant.

There are three important points to be considered in the evaporator; first there must be from six to eight inches on each side that is not over the fire and will always be below the boiling point. This causes the scum to retreat to this cool surface as fast as it raises, from which place it is removed with the skimmer. Any scum that stays on the boiling sap will be broken up and the essence of all the impurities will remain in the molasses.

Second: The evaporator must be so arranged that no mixing can take place between sap of one density and that of any other density. This is best done by having partitions or ledges about eight inches apart running from each side alternately, and ending the same distance from the sides. That makes a continuous channel back and forth across the pan. The sap starts at one end as it leaves the faucet in the pipe, and leaves as molasses at the other. The sap must start on its journey from the hottest toward the coolest end of the evaporator, as the molasses requires less heat than the fresh sap. There is little danger of getting the sap too hot, but when nearly finished 228 degrees F. is about the highest temperature it should go.

Third: There should be gates or regulating slides in one or more places that the flow through the pan may be regulated.

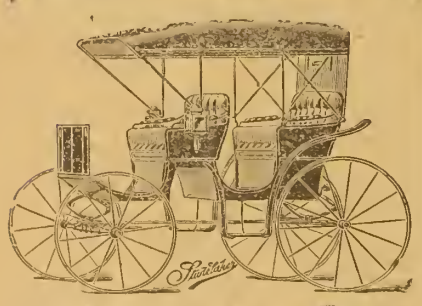
In the near future I hope to describe the method of constructing the furnace and the management of the entire plant.

Waite, Bailey & Lynch, machinery merchants and engineers buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, motors, etc. Otto gasoline engines, all sizes, to 200-H. P., better built, more economical, therefore superior to all others; prices and terms that will insure due consideration. See us and be convinced. Office and manufactory, 943-945 N. Main st., corner Bruno st., Los Angeles, Calif.

When You Buy

A BUGGY RUNABOUT PHAETON or FARM WAGON

Buy the Best



Studebaker Vehicles

Are leaders. They are constructed throughout of the best material, by skilled workmen, in the largest vehicle factory in the world. There is a great deal of satisfaction in owning a

Studebaker.

They last longer and require fewer repairs than any other make.

For ECONOMY DURABILITY STRENGTH and EASE OF RUNNING

You will find the Studebaker far in the lead. Those contemplating a purchase should send for our catalogue or call and see us. We are local agents and would be glad to show you a complete line of vehicles and harness.

Newell Mathews Co.

200-202 No. Los Angeles St.
Los Angeles, California

CLIMATE AND CROP REPORT

U. S. Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California section, for the week ending Monday, Nov. 13.

Clear weather prevailed during the week in the central and northern sections, with occasional fogs in the coast districts. In the interior the days were warm and nights cool. In Southern California the rain noted at the close of the preceding week continued at intervals until Wednesday and was followed by warm and clear weather. The precipitations in the south varied from about two inches along the coast to over five inches in the foothill and mountain districts. Light to heavy frosts occurred in the central and northern parts of the State, but caused no damage.

Rain is badly needed in all sections except the south. The soil is too dry in most places for profitable working, pasturage is scarce and cattle are showing the lack of feed. Dairy interests are suffering and stock raisers fear the drouth will last so long that grass will not get a start before cold weather commences. Many of the large mines in the Sierra have been compelled to suspend operations on account of the scarcity of water and hundreds of men have been thrown out of employment. In Southern California the rainfall was quite general and was of the greatest benefit to farmers, orchardists and stock raisers. Plowing and seeding are progressing and the acreage in grain will be larger than usual. Pasturage is already showing much improvement and cattle are doing well. The large reservoirs show considerable increase in depth of water.

Oranges in all sections are coloring rapidly and satisfactorily, and the outlook is good for a large crop of excellent quality. Orange picking and shipping are in progress except where the fruit is always late in maturing. Walnuts and olives are yielding fair crops.

* * *

Eureka Summary.—Long continued drouth decidedly unfavorable for dairy interests; ground too dry to plow; feed too short to do stock much good; water wells and creeks very low.

* * *

Los Angeles Summary.—Last week's rain was unusually heavy in the southern section and much lighter in the northern. It started vegetation and the first sown grain is coming up; also put ground in condition for working, except in some places where too wet.

"I am going to get married and settle down."

"Yes?"

"Yes; and I want you to fix up some flowers in an appropriate design, something big and symbolical."

"How would a big anchor do?"—Boston Globe.

500,000 Strawberry Plants

"A 1" and Kellogg's Brandywine

Grown from Eastern Stock. A1's are the kind that give you three full crops from April to October and then sets a fall crop that brings fancy prices.

TERMS:

A1's, - - $4.00 per 1000
Brandywines 3.00 " "
Cash with order.

E. E. LEECH, IRWINDALE, CAL.

Substantial Toys for Girls and Boys

AT HOEGEE'S
LOS ANGELES

As we grow old in business, we grow young at heart, and each Christmas time finds us better prepared than ever to meet the demands of our youthful friends for newer, more practical and stronger toys. This year it is the best to be had, and enough, we hope, to go around. If you cannot pay us a visit, write us about any article desired, and we will tell you all about it. Act quick, time is short.

Cyclone Pedal Wagons
Children's Autos
Auto Pedal Engines
Flying Dutchmen
Girls' Tricycles
Buckboards
Velocipedes
Wagons

Big Boys save good money by sending for our Athletic and Gun Catalogue. You may learn what's what and how to buy it. At this big store it is as easy to trade by mail as over the counter—and safe, too.

Tents, Guns, Irrigating Hose, Khaki Clothing

The Wm. H. Hoegee Co., Inc.
Phones—Ex. 7 138-142 So. Main St.

CITRUS FRUITS

By C. A. Day, Pasadena

JAMAICA ORANGES.

Jamaica oranges have been shipped to Seattle and San Francisco, and are on sale at these points. The shipment to San Francisco was infected with purple scale.

Through the courtesy of Exchange officials of Los Angeles the writer had an opportunity to inspect samples of this infected fruit. The sale of this infected fruit in San Francisco may not endanger the citrus industry of Central California, provided it is not reshipped to other points in the citrus section of the state. It simply shows the possibility of the introduction of new insect pests into a locality by the means of infected fruit In the case of oranges wrapped in paper and packed in boxes, it is impossible to determine what insect pests may be located on individual specimens of the fruit.

In times past Los Angeles County has had a little experience with infected oranges shipped into the county from San Francisco. There is always danger from scale infection in the sale of citrus fruit in the local markets of the citrus sections of the state. As a safeguard against the possible introduction of insect pests into a locality there should be a close inspection of fruit sold at the fruit stands and stores and by peddlers. The latter are the most dangerous for the reason that in many cases these peddlers deal in a low grade of goods, fruit that because of infection could not be sold at the stores and fruit stands.

The fruit inspector finds it hard to keep track of these fruit peddlers as they are constantly on the move and have no stationary place of business, as a result a load of infected fruit may be partially or wholly sold out before detection.

* * *

Treatment for Scale Insects.—The main season for fumigation and spraying is nearly over, and this would seem to be the proper time to review the work of this year. With every year there are new phases of the problem of insect control that are presented to the fruit grower, and from each year's experience new and valuable lessons are learned. In very many cases the mistakes of former years are repeated by the careless fumigator or sprayer, and the rubbing-in process has to be repeated a time or two before the lesson is thoroughly learned.

Injury to Oranges from Fumigation.—There is always danger of injury to fruit or tree by the application of almost any kind of treatment for the eradication of insect pests, but with experience and proper care the chance of injury may be reduced to a minimum.

Several reports have come in, of injury to oranges from fumigation. The injury is on the side of the tree where the pots are placed. Investigation shows that fine cyanide was used. Fine cyanide, even with an increase of water, generates the gas quickly. The effect is to pit mark the fruit and in extreme cases burns what the fumigators call a chimney, up through the tree directly over the pots. The leaves are dropped and in some cases the wood is killed. The only thing to be said about this is to never use the fine pulverized cyanide, always use the lump cyanide. The scarcity of cyanide during this season has induced some fumigators to use an article that has evidently been kept over from last year. Some complaint has been made about inferior or low grade acid. The white acid is the best and should be used in preference to the dark colored acid. In fumigation the quality of the material used should be carefully considered. Very frequently injury is the result of the tree being out of condition and the leaves will drop or the fumigating is done in the day time or when the foliage is wet with dew or an insufficient quantity of water is used, resulting in a too quick generation of the gas and burned foliage and fruit.

Experience should teach the careful fumigator to avoid these mistakes, Successful fumigation depends upon a careful estimate of the dosage and measuring of the material. Many of our best fumigators measure the water instead of guessing at the quantity to be used.

* * *

Fumigation of Purple Scale.—Inspector C. C. Bemis of Covina, working under the direction of the Horticultural Commission of Los Angeles County has made a series of experiments in fumigation for purple scale, dating back to the month of January, 1905. It will do no harm to now state that Mr. Bemis discovered over 20 infections of purple scale scattered through the orchards of Covina, these infections each consisted of from one to three trees and was well established on each tree.

The experiments began with increasing the dose to 50 and then 75 per cent. in the hopes of destroying the eggs under the old scale and thus totally eradicating the pest. The increase to 75 per cent. did not do the work and a double dose was then tried and was successful, without injuring fruit or trees,

For the double dose the amount of water was increased to 6 to 1 of the acid. We are informed that the horticultural commission of Orange county has reported to the State Commission of successful work on purple scale with the double dose repeated or two fumigations, but Mr. Bemis finds this is not necessary as one fumigation with a double dose destroys both scale and eggs. This discovery is a very important one as it now will be possible to eradicate this scale pest. The purple scale only infests citrus trees and for this reason it will be more easily eradicated than the red and black scale, which infests a great variety of plants, shrubs and trees.

* * *

Effect of Treatment on the Scale.—In fumigation the increase in the quantity of water used has made the treatment more effective on the scale without endangering the fruit or tree.

In spraying thick topped trees where the branches lay on top of each other, some of the scale are liable to escape the effect of the spray. Another thing, through carelessness on the part of the operator, all parts of the tree are not thoroughly wet and some of the scale thus escape.

A careless or inexperienced person should never be allowed the privilege of applying distillate spray to citrus trees. Distillates carrying heavy oils should not be used. Oil is a poison to plants when used in sufficient quantity, therefore the quantity used should be carefully gauged and condition of the tree considered.

Yellow Scale.—In some localities the parasite for the yellow scale is not effective and treatment becomes necessary to keep it down.

TRUE TO NAME

Buy of a man you know who knows the trees he sells. Talk quality first and then talk price. We stand ready to talk both. What we know about Citrus Culture has been put in a book of 54 pages. Shall we send you one?

Sweet, Sour, Pomelo and Citrus Trifoliata Seed Bed Plants.

San Dimas Citrus Nurseries
R. M. TEAGUE, Prop.
San Dimas, California

VALENCIA LATE

And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Glendora, Riverside or Redlands, as desired. Address

Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Stop! Listen!

Buy Orange Trees that are true to name. I do not own the largest nursery in the world, but can produce the best trees in the world, and can beat the world on prices, according to quality.

H. M. Cole Third House S. Hill Ave. Pasadena, California

Sunset Phone Main 450

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

CALIFORNIA FERTILIZER WORKS, Inc.
538 CLAY ST., SAN FRANCISCO, CAL.

SPECIAL FERTILIZERS MADE TO ORDER

As we produce our own Bone, Blood, Tankage, Sulfuric Acid, and manufacture our own Phosphate, we can sell high grade commercial Fertilizer at low rates.

MANUFACTURERS OF
Pure Bone Meal and Complete Fertilizers

Producers, Importers and Dealers in Fertilizing Material of All Kinds. Send for our prices before buying elsewhere, and you will save money.

DRIED GROUND TANKAGE
THE BEST AND MOST ECONOMICAL FERTILIZER
ANALYSIS { 10½ per cent Ammonia / 18 per cent Bone Phosphate
WRITE US FOR PRICES AND PARTICULARS
Western Meat Company - - San Francisco

SPRAYING A LARGE ACREAGE

Requires the very best hand pumps, or what is still more economical, a Power Sprayer. More economical because it costs but forty five cents for three days labor and the resulting work is thoroughly done. The grower equipped with a BEAN POWER SPRAYER has little to fear in the way of insect pests or fungus diseases. You know that it often means the saving of a large part of the crop to be able to get over your orchard as quickly and thoroughly, as you can

WITH A BEAN POWER SPRAYER

They are powerful but simple, and no previous experience of any kind is required for operating them. The perfect agitation, the high, even pressure, and the surprisingly large amount of work that can be accomplished daily at small expense are among the reasons for their constantly increasing sale.
Then, too, the gasoline engine can be removed in a few moments, and is always found handy for other purposes, You will agree with all who have seen them that the use of BEAN POWER SPRAYERS

RESULTS IN A CLEAN CROP AT SMALL EXPENSE

Just now, before the rush season comes on, we have a special offer which will interest you. Write today for our free illustrated catalogue No. 18, which explains all the advantages of BEAN POWER SPRAYERS. State acreage and kind of fruit (Catalogue No. 16 describes hand pumps.) Address

Bean Spray Pump Co , 161 W. Santa Clara St., San Jose, Cal.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

PLANT NOVELTIES OF MERIT.

At the late flower show in Los Angeles there was a cup offered for the most valuable plant novelty. This cup was awarded to the exhibitor of a new crimson flowered tobacco (Nicotiana Sanderae) but many other plants of value were shown in competition.

The Southern California Acclimatizing Association of Santa Barbara sent four plants of unusual interest. One, a new bamboo (Arundinaria Hookeriana) was noted in these columns but two or three weeks ago. Feijoa Sellowiana, a delicious marketable fruit, doubtless hardy in all parts of this State, was written of early last spring. A fine large plant is now fruiting at W. Scott Way's, Altadena. A new Tecoma (T. Reginae Sabae) was shown, hailing from Rhodesia, Africa. As is seen by the specific name, this plant was named for Queen Sheba. It has lately been discovered that her ancient kingdom was in what is now Rhodesia and this vine was found growing over the ruins of an ancient temple. This shrubby climber somewhat resembles T McKenni in foliage and flower, though more ornamental in both. Its chief merit, however, lies in the fact that it is a winter bloomer which makes it a particularly valuable plant for this coast, and no doubt it will prove hardy in all parts of California. The writer saw it in bloom in the month of of January and can recommend it as a valuable addition to our already long list of climbers.

The fourth plant in the Franceschi collection was a giant leaved "Elephant's ear," a new species of Xanthosoma from Nuevo Leon, Mexico. This is the most strikingly handsome aroid ever seen in this or a similar climate and will certainly prove a faborite in our nearly frostless sections.

EMBELLISHMENT OF RURAL SCHOOL GROUNDS.

The greatest need and greatest opportunity for beautifying school grounds is in village and rural districts. And alas! too often there is only bleakness and barrenness. The school directors seem to have set apart the poorest ground in the district for the school yard. Will nothing grow? There are no flowers, and only some weak native weeds and grasses, and a few starved trees. By a little effort these unattractive surroundings could be made pleasant and beautiful. Children should be led to study nature's method, and to examine her manner of planting flowers beside the road, grouping trees and shrubs along fences. The wind, the birds and the squirrels—nature's agents—have no regularity in their seed planting. The arrangement is irregular massing of her trees, shrubs and flowers, and their struggle for existence produces pleasing variety and effective results all the year round.

As was suggested in a recent number of the Cultivator, the school yards might be the breathing spots for the citizens during the long summer vacations and summer evenings, thus forming a stronger bond of sympathy and interest between the school and parents. The children are happier and their work more efficient when they are in daily contact with beautiful school grounds; the cultivated taste and appreciation of the beautiful finds expression in improvement of home conditions, thus making the school a radiating center for civic improvement.

REPORTED NEW INSECTICIDE.

The Electrical Magazine recently describes a series of experiments for destroying injurious insects, which is said to have promised success. An engineer in Monaco while operating an electrical machine in the open air observed that metal rods inserted in the ground and connected with a dynamo of 110 volts, induced insects in the vicinity to leave their hiding places and to come hastily to the surface. Following these observations, a series of experiments was conducted of which full details are not yet known.

An apparatus is mentioned, invented by a Russian, for killing injurious insects by electricity. A dynamo is so placed upon a hand car that no electricity in engendered while the car is standing still. When in motion the current enters the ground through the iron wheel of the car on one side, and upon the other through the points of brushes of copper wire, which are fastened in the rear of the car so as to be a few inches above the ground.

The result is said to be that all insects in the vicinity of the copper brushes are killed as if by lightning.

WILD FLOWERS.

It would be indeed a hard matter to find a person who does not love wild flowers as furnished by nature's garden. Many nurserymen now make a specialty of growing certain varieties of these flowers, which are known to do well under cultivation, and some varieties have become so scarce in the east, through a willful misappreciation of the value of them, that much will depend upon the success of cultivation if they are to be perpetuated, as they have become all but extinct in their wild state.

BILLBOARDS EVERYWHERE.

The large, obnoxious display billboard has invaded the country as well as the city and we hope to see, in the near future, a concerted effort to remove this nuisance from our rural landscape. It has really become a downright nuisance, detrimental in every way to improvement efforts, and with no way of counteracting its influence except by blinding it with planting effects or demolishing it. Every good citizen should lend a hand to redeem our rural communities from the billboard and similar advertising methods; it is a first necessary step in the general work of beautifying our whole State, and should be vigorously prosecuted.

The best cork comes from Algeria. There are 2,500,000 acres of cork forests in that country. Some attempts have been made toward testing the possibilities of cork growing in California. The State University has planted a large number of trees for the purpose of watching their growth and the development of the corky bark. The oak from which cork is obtained in an unusually fine ornamental tree and thrives in all parts of the State.

A NEW CALIFORNIA SWEET PEA.

California has for several years past taken the lead in the growing of sweet peas for seed, and whole trainloads have been shipped out of this State. Starting with the best of the Eckford and other noted strains, the California growers have produced such a marvelous race in the best types that any new pea sent out from this State is assured a hearty welcome the world over.

C. C. Morse & Co., of San Francisco, are this season sending out a bright blue mottled on white, of fine broad, open form, which has been said by those who have seen it to be the brightest blue in its mottlings of any sweet pea ever offered. It is not alone in colorings that the latest types excel. The flowers are large, open, and come in greater numbers on each stem than the older type, while the individual flower stems are much longer. As California now leads the world in sweet peas, "Helen Pierce," the latest candidate for public favor, is sure of a warm reception.

THE COMPOST HEAP.

Every farmer appreciates a good vegetable garden. One of the helps in this work is the compost heap, which every farm and garden should have so as to take care of the refuse or organic matter about the place. A good place for the compost heap is where there is no standing water; also a location where it is handy to get at. On this place all refuse matter that collects in and about the garden, such material as straw, manure, rotten vegetables, fallen leaves, etc. Turn the heap over occasionally.

Worthless or diseased plants should not be given room in any place and simply indicate a careless or ignorant owner. For the sake of appearance and thrift, have none but vigorous, well-kept plants in your collection.

A NATIONAL PARK.

The people of Pacific Grove, Monterey and vicinity are eager to have the 340,000 acres of land that is withdrawn from entry converted into a national park by the Federal government. The land in the main is very rough, but it is valuable as a watershed, furnishing the supply for many small rivers from which Pacific Grove, Monterey and Del Monte obtain water. Professor Dudley of Stanford University is one of the leaders in the movement.

Put fresh cut carnations in water in a cool room. The stems will stiffen and the flowers will stand shipment and rough usage much better than where they are picked and packed at once.

"Ma!"
"What is it now?"
"I wanna nothher pieca cake!"
"No, Tommy, You've had enough."
"Aw, ma! Yer always tellin' me I don't eat properly, an' nen you don't never gimme no chance to practise!"
—Cleveland Leader.

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN
HAS REMOVED TO
345 SOUTH MAIN STREET
WHERE IN LARGER PERMANENT QUARTERS HE WILL BE PLEASED TO SEE ALL HIS PATRONS

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.
Send for samples.
PRICES
12 inch long, $ 9.00 per 1000
14 inch long, 10.00 per 1000
16 inch long, 11.50 per 1000
18 inch long 12.50 per 1000
24 inch long 15.00 per 1000
30 inch long 17.50 per 1000
Agents Wanted Everywhere
YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.

OUR NEW SWEET PEA
Helen Pierce
A beautiful novelty discovered and introduced by us this year. It is bright blue, mottled on white. This is the time to plant. Send us for a sealed packet..... 25c
We have been extensive seed growers for many years and are now prepared to supply any one on the Pacific Coast with reliable Vegetable, Grass and Flower seeds at retail. Our fine illustrated catalogue mailed free about Dec. 1st. Write for it.
C. C. MORSE & CO., Seed Growers
815-817 SANSOME STREET SAN FRANCISCO, CAL.

In the Vegetable Garden

CULTIVATING RASPBERRIES.

Clean cultivation is necessary with the red raspberries because they are themselves of a weedy nature, and, in order to hold them within bounds, implements which cut all the superfluous shoots and root sprouts from the cultivated area should be used. During the early life of the plantation it will be found most economical to keep the plants in check rows so that cultivation by horse power can be accomplished in two directions. Later, however, as the plantation grows older, it will be found advantageous both in yield of fruit and for economy, to allow the plants to form a hedge or matted row, and to practice cultivation in one direction only. The spaces between the hedges should be plowed at least once each year. Whether this shall be done in the spring or in the fall will depend upon the locality.

In most instances, however, because of the high altitude and latitude in which this plant thrives, spring plowing will be found to be the most advantageous, as less injury to the roots will result from deep culture at this season. The remaining cultivation should be done with an implement which stirs the surface of the soil only to the depth of two to three inches, so as not to interfere with the young feeding roots which spread through the soil loosened by the plow. Clean cultivation is equally desiralbe for the black raspberry as for the red raspberry, because weeds between the rows interfere with the latter operations in the berry field. While cultivation should not be carried on so late in the season as to interfere with the harvesting of the fruit, it should be sufficiently thorough and continued late enough to keep the ground free from weeds.—Prof. L. C. Corebtt.

A DISEASE OF ALL OUR VEGETABLES.

A bacterial disease of cauliflower and kindred plants is reported as doing great injury in the gardens in some sections. A bulletin from the Ontario Experimental Farm dates the appearance of it from 1901. The bulletin treats only of the course the disease takes, the method of determining the cause of the trouble, the means of natural and artificial inoculation, and the various degrees of susceptibility of the many varieties tested, these varieties being those commonly grown by market and private gardeners. Nothing is said of preventive or check measures. The records of observation show, that humid atmosphere favored rapid growth of the organism on the exterior of the plants, also of that which caused the softening and destruction of the pulp tissues; that, not only growing plants but freshly gathered vegetables could be inoculated, and not only those of the cabbage tribe, but potatoes, celery, green and ripe tomatoes, Jerusalem artichokes, asparagus, rhubarb and onions. Conditions favorable to the growth and spread are warm, moist weather; rank growth with foliage shading the ground and thus conserving moisture; insect pests, especially the cabbage worm; bruising in cultivating; heavy winds causing leaves to be broken and thus affording an inlet in the field, and using the same ground year after year without regard to its being infected with the germs left in the debris.

REMEDY FOR CELERY BLIGHT.

Celery blight can be controlled by spraying with ammoniacal carbonate of copper. To make this, dissolve three ounces copper carbonate in a pint of ammonia, and add 25 gallons water. To wake copper carbonate, dissolve 5 pounds copper sulphate (blue vitriol) in 5 gallons water, also 6 pounds carbonate of soda in 5 gallons water. Mix the solutions slowly, stirring well. Let the mixture stand until next day to settle, after which pour off the liquid. Pour on 10 gallons water, let stand until next day, and repeat the operation, after which strain and dry the blue powder, which is the copper carbonate.

CAPER CULTURE.

The caper of commerce is the pickled flower bud of a shrub that grows in Southern Europe. The business of raising capers for the market might well be taken up in California, the arid lands of the Southwest, and some of the Southern States. In all parts of California this shrub makes a phenominal growth and aside from its commercial value, it is highly ornamental, having fine large white flowers from one to two inches across. The U: S. sends thousands of dollars to Europe every year for capers which should be kept at home.

EVERBEARING SEEDLESS BLACKBERRY.

Last spring there appeared in the columns of the Cultivator an advertisement of a berry under the above name of which we should like to learn more. If such a berry should prove a success it would prove a priceless boon to both berry growers and berry eaters. Who has grown it?

OKRA PODS.

The Okra is a very prolific bearer the seed pods being cut when they are young and tender and cut up into short sections for soup greens. The seed pods when mature are about six or eight inches long, but should be cut before they harden to be satisfactory. The plants reach a size of three or four feet high and are of sturdy upright growth, the blossom being conspicuous and quite pretty.

ENDIVE.

Sow some seeds of endive and when the plants are of good size cover them with straw, hay or sacking. You have perhaps, no idea how nice they are in salad when thus bleached and made tender by covering. They will grow on any soil and require no care beyond keeping them clean of weeds.

PREPARING SEEDBEDS.

The most important step in seed growing, as well as gardening, where transplanting is a necessity, is in the direction of securing healthy plants. Without vitality in the young plant it is absolutely impossible to develop a seed-bearing plant or to secure a good vegetable. A common and fatal error, the one that costs the seed grower more than all other mistakes combined, lies in the preparation of the seedbed, which is almost invariably made too rich, and in many instances, it would be safe to say most, too little attention is paid in its preparation.

The soil of the seedbed should be made as fine as it is possible to make it, no matter what its character may be, and there should not be any fertilizer, either commercial or from the compost heap applied. The young plant, like all other infant forms, cannot assimilate strong food; any food that stimulates the young plant makes size instead of strength. They grow succulent without sufficient vitality to withstand the shock occasioned by removal, consequently they receive a check from which they never recover.

The best soil for the seedbed is one that has been left in good condition after a previous year's crop; it matters but little what that may have been, provided the crop was not weeds, and that the crop was had been kept clean, which would not permit of a weed ripening its seeds. Such a soil is sufficiently rich for the growing of any class of plants for a field or garden crop.

The location of the bed should, as far as possible, be an isolated one, as near the center of the field, where there is a free circulation of air, and where the sun has full force the entire day. But what is more important, have it away from the hedge rows or fences, the breeding places of all insect forms, the enemies of the young plants. The situation, too, should be a dry one, that is, one where there is a good drainage, and where it is impossible for water to stand. While all plants require water, there is nothing more injurious to them than water in too great quantities. Soil that has a tendency to bake is the poorest possible for a seedbed.

CRIMSON WINTER RHUBARB Selected seed $12 per pound or $1.00 per oz. J. DENT, R. D. NO. 1, VENTURA, CAL.

Strawberry Plants

200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address **F. S. Lee, Pasadena, Cal. Phone Main 922**

LAXTON'S NOBLE STRAWBERRY PLANTS

400,000 First-Class Plants. Prices on application

THE HOUSTON BERRY FARM

235 Colton Avenue - - Riverside, California

Berry Vines

Logan, Burbank's Mammoth Black, Phenomenal. Prices on application.

Isaac Martin, Merle, Cal.

BURBANK'S

Crimson Winter Rhubarb

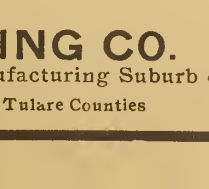
OUR SPECIALTY

$1.50 per dozen, $7.50 per 100, $50 per 1000

WAGNER'S NURSERY

PHONES { Home, 1291 Sunset, Black 1297 Pasadena, Cal.

BRANDYWINE "A 1" **STRAWBERRIES**



250,000

Strong Growing, Thrifty Plants for sale. Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.

Frank P. Baldosser,

Covina, Cal.

Greatest National Bank West of Denver and South of San Francisco

First National Bank

United States Depository for Government Funds

CAPITAL, SURPLUS AND UNDIVIDED PROFITS, OVER $4,000,000.
DEPOSITS, $13,500,000. TOTAL RESOURCES, $18,000,000.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

PRESIDENT—J. M ELLIOTT.
VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS
CASHIER—W. T. S. HAMMOND.

First National Bank
Los Angeles, California

TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The ***only*** way to ***Irrigate Alfalfa.*** ***Cheaper*** than ***Flumes.*** This is only ***one*** of our ***specialties.*** We make ***Riveted Water Pipe*** in lengths of ***Ten Feet*** from ***Single Sheets.*** Let us ***prove*** to you that we make ***Pipe*** and ***Tanks Right.*** WRITE FOR CATALOGUE.

TALLERDAY MANUFACTURING CO.

PHONE: ALHAMBRA 301 **DOLGEVILLE, CAL.,** the Manufacturing Suburb of Los Angeles

Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line, $1.12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1¼ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to 10	Lines	15	cents per line
11 " 50	"	14	" "
51 " 100	"	13	" "
101 " 500	"	12	" "
501 " 1000	"	11	" "
1001 " 1500	"	10	" "
1501 " 2000	"	09	" "

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 17, 1905

CONTENTS.

	Page.
Vineyards From Cuttings	459
French Prunes	460
Apples For the Pacific Coast	460
Bees in Europe	461
European Markets	462
Sorghum Cane Molasses	462
Jamaica Oranges	463
Plant Novelties of Merit	464
Electrical Insecticide	464
Remedy for Celery Blight	465
Caper Culture	465
Editorial	466
Coast News Notes	467
Diseases of Cattle and Hogs	468
The Colt That Scares	469
Beef Type vs. Dairy Type	469
Spineless Cacti	470
Veterinary	470
Operating an Incubator	471
Chicken Queries	472
Spraying Potatoes for Blight	474
Queries and Suggestions	475
Household	476-7
Markets	478-9

CURRENT EVENTS.

Give the Cultivator Your Ideas.—The Cultivator is a paper the publication of which is, in part, to educate the people on subjects pertaining to agriculture in many of its branches. It is not expected that the editors shall know everything about California and its possibilities, nor be able to advise fully on the hundred and one things people differ over in propagating plant and animal life, but, in general, the truth is sought to be given or no suggestion is advanced.

Now there are many well informed people in California who have a liberal fund of information which they have obtained by experience. It covers a range of subjects and is valuable. It is from these persons we desire to hear. They will encourage others who are beginning to make homes in the State, they will promote the good of community by stating what they know based on actual experiments they have made. In horticulture, gardening, dairying and in household affairs very much may be learned by comparing notes. Hence it is that we invite brief discussions on all interesting topics covered by the Cultivator. We may not use them all, but probably we shall, and if they are good enough to publish some one is going to be benefited by them. Let us hear from more of our constituents.

* * *

The President Endorsed.—Mr. J. H. Call, a delegate to the Chicago rail road rate convention, returned from the East with the strong convictions that the country is behind Mr. Roosevelt in his attitude on his railroad rate recommendations. Wherever he went, through the Middle West, he found the sentiment substantially unanimous in favor of the President's views.

The recent election in New York and Ohio strongly indicates the temper of the American people regarding the efforts of a few railroad interests to control legislation, and a desire practically, to administer the affairs of the government. In Ohio, the Foraker machine, which strongly antagonized the president and his railroad policy, has been defeated by 50,000 votes, whereas Roosevelt carried the same State by 250,000 majority at the last presidential election. This was the first time the people had an opportunity to express themselves and it was a rebuke to the machine whose significance cannot be mistaken.

That the President intends to stand firmly by his convictions of what is right in the matter of granting the Interstate Commerce Commission power to fix rates of transportation is the united opinion of all who have conversed with him on the subject. F. G. Story, president of the California Fruit Growers' Exchange, in an interview with Roosevelt, reports him as saying that all he wants is the support of the representatives of California in Congress and especially the votes of our Senators.

SEMI-ARID CULTIVATION.

The subject embraced under the above title is so large and contains so many ramifications, that it can not be covered in one writing.

We desire in this number to present some data bearing on the question of dry farming as set forth in Bulletin No. 103 of the Colorado Agricultural Experiment Station, as prepared by Professor W. H. Olin, who designates his discussion "thorough tillage." This bulletin not only covers the experiments carried on at the Agricultural College at Fort Collins, but includes also such data as Professor Olin was able to obtain through correspondence with other experiment stations in Western states.

The underlying principle of the plan known as the Campbell system of dry farming of which much inquiry is being made in Southern California, consists in conserving all the moisture which falls in rain by thorough preparation and consequent vigilant tillage of the soil.

This is no new discovery nor is it one which any man of this country can lay claim as having originated. Two centuries ago Jethro Tull said: "Tillage is manure!"

Ex-Secretary Morton, who was in Mr. Cleveland's cabinet, whose home was in Nebraska, twenty years ago urged the farmers of that arid state to plow deep, thoroughly pulverize the soil and cultivate the corn rows "until stalks have grown so high that further cultivation is impossible." His theory was, like Robert's Fertility, that frequent stirring and turning the soil is the one fundimental all-essential proposition of agriculture.

* * *

The deeper the plowing the greater the soil reservoir. Experiments conducted at the Cornell experiment station, New York, by Dr. Roberts show that an acre of average soil in good tillth will hold 20 to 25 per cent. of moisture and not be too moist for cultivation. It is estimated that an acre of soil twelve inches deep will weigh 1800 tons if it contains 20 per cent. of moisture, 1620 tons if it contains 8 per cent. of moisture—the amount upon which plants are able to grow and maintain themselves. Dr. Roberts says that an inch of rainfall brings to each acre 113 7-16 tons of water. If this could all be retained in average soil it would mean almost 7 3-5 per cent. moisture, nearly enough to maintain plant growth. Well-fined soil is capable of taking up two inches of rainfall in the first foot of soil and still be in good condition to cultivate Suppose that this soil is deeply plowed and contains 15 per cent. moisture; an inch or two inch rain would find the soil reservoir able to hold it. If this ground were shallow plowed, say four inches, an inch rain would saturate the reservoir, while a two-inch rain would overflow the soil reservoir, causing a loss of water and severe washing away of the surface soil. Deep plowing, therefore increases the storage capacity of moisture in our soils from which the plant draws as it has need.

Harrowing should follow as near after the plow as possible, to prevent loss of moisture. Each half day's plowing should be harrowed the same half day in which it is plowed. Experiments conducted by experiment stations and by Mr. H. W. Campbell, known as the promoter of dry farming show that disking grain ground after the harvester prevents loss of moisture on stubble ground through too rapid evaporation, and prepares the ground for the ready absorption of rain.

* * *

Mr. Campbell asserts, from actual experience, that 20 percent. of moisture can be saved to crops by this system of thorough and deep tillage. He has devised a series of farm implements, ploughs, harrows, disks, etc., to carry on the various stages of cultivation which are adapted to conservation of moisture.

In the Colorado Bulletin Professor Olin calls attention to certain varieties of crops which experiments conducted at the different agricultural colleges have shown best adapted for semi-arid farming.

It has been estimated, says the bulletin, by careful agriculturists that the film surface of a cubic foot of clay loam spread out would cover three-fourths of an acre. When these capillary tubes of the soil extend to the surface the hot sun of our semi-arid lands pumps the water from them, which is seemingly wasted in the dry air of these regions. The earth mulch is the dry blanket which breaks capillary connection between the under surface soil tubes and the hot outer surface, checking this seriously rapid evaporation. Of course, the finer the mulch the more perfect its action. Were it not for the winds on our plains we could make a dust mulch, and thus get the most perfect earth mulch for checking evaporation of moisture from the soil. The danger from wind blowing soil and seed from the field is too great, and farmers are cautioned not to make the earth mulch too fine. Leave the soil as loose as possible on top, so as to prevent this capillary action reaching to the surface, but do not make it of dustlike fineness.

* * *

Professor Olin, basing his conclusions upon his own researches and experiments, as well as those of others, says among other things:

"Methods of farming which (a) conserve the soil moisture, (b) prepare a good seed bed, (c) reduce the evaporation to as near the minimum as possible, (d) use good vital, acclimated seed, (e) employ a crop rotation which has stock foods prominent, contain at least one money crop, (f) and the practice of thorough tillage of the ground, often tide the farmer over bad years and insure his success in good years.

"Present day experiences and experiments demonstrate that fining the soil has a tendency to render more plant food available.

"All so-called soil culture systems are groupings of few or many of the principles of the thorough tillage system which is the corrolated experience of our best farmers of past and present time.

"The thorough tillage system of farming considers: Time and manner of plowing the ground; time and manner of harrowing; firming the soil and formation of an earth mulch to arrest evaporation in semi-arid regions; summer culture to fine the soil, conserve moisture and prepare a good seed bed for any crop under drouth conditions; principle of capillarity and how moisture may be conserved; selection of seed and rate of seeding; crops which have shown drouth-resistant power; amount of moisture required by plants; average crop season rainfall for a period of years in locality where farming is to be practiced; crop rotations most profitable for the farmer and the land.

* * *

The all important point made in Professor Olin's bulletin is the one that under this dry farming system small grain, forage crops, potatoes and vegetables in general, can be successfully grown with out irrigation. Thorough tillage taking the place of moisture which falls in the humid countries of the middle west.

"Experiments conducted in Colorado in the semi-arid lands have shown, says Professor Olin, "that thorough tillage will undoubtedly increase the areas where these crops can be successfully grown in our semi-arid lands.

"Ten inches of rain furnishes enough moisture to mature more than twice than number of bushels of wheat per acre.

"The amount of rainfall, together with the selection of drouth-resistant crops, must be considered under any system of soil culture—under semi-arid conditions."

The future of California rests to a greater degree on understanding and operating the soil than it does on the volume of water to be derived by irrigation, for if by a system our semi-arid lands can be made to produce good crops by tillage, where no crops are grown today, we shall have added to the fertility of the land by cultivation, and not withdrawn its richness by constant irrigation. It is here the whole proposition of dry farming finds its basic worth.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The lemon harvest is just beginning at Lemon Grove and promises to be very large.

Will Cox has bought almost all the prunes in Ukiah and Hopland at prices ranging from $60 to $85 a ton.

The olive growers of the Sacramento valley will meet in Sacramento on Saturday, the 18th, to form an olive growers' association.

The fruit driers of the Pajaro valley have handled upwards of 125 carloads of apples this season and most of the the fruit was of splendid quality.

Professor Waite, whose work in connection with the pear blight is so well known in the Sacramento Valley, is now on his way to California from Washington.

The tomato growers of Glendora have formed an association on the plan of the local citrus association and are now shipping heavily. About forty acres of tomatoes will be picked.

The report of a new disease of the orange around Fair Oaks in Sacramento county, seems to have been based merely upon an unusual percentage of decay in some orchards.

The Redbanks orchard near Visalia boasts of a 19-months-old peach tree which is 11 1-4 inches in circumference, each of four main branches measuring 7 inches. It is twelve feet high and has a spread of 10 feet..

Five hundred acres in the Coachella valley will be planted to grapes. Orders to that amount have been placed. The past season proved that table grapes can be put upon the market here, nearly two months earlier than from any other place in the United States.

The citrus fruit crop in Ventura promises to be from 10 to 15 per cent. greater than last year, and the price also promises to be better, especially on oranges. The growers in several parts of the country have made extensive additions to their packing-houses, notably in Santa Paula and at Limonera..

First shipments of oranges have been made from Exeter, Tulare county, and Rocklin, Placer county. These oranges are not ripe; they are merely yellow and have the exterior appearance of ripeness, but since the Placer county oranges are destined for Australia, these at least will be ripe before they reach their destination.

The twelve-acre, fourteen-year-old lemon grove of Henry Bigelow, at San Gabriel has been a winner this season. He has picked lemons twice a month since May, and has sent 2338 packed boxes to the market. For them his gross returns have been $10,677, and his net returns (exclusive of picking) $9986—or practically $10,000 from twelve acres.

Here is the output of oranges from Southern California during the last twenty years: Beginning with the season of 1886-87, the figures representing carloads lots and each enumeration representing the annual shipment, the facts are as follows: 1000, 1800, 2600, 3150, 3600, 3900, 4100, 5100, 7135, 6415, 7350, 13,987, 9448, 16,362, 21,173, 17,571, 19,776, 21,117, 1904-5, 25,671 carloads.

This year the orange crop in the Ojai will reach 75,000 boxes, Santa Paula will grow 125 carloads. The Fillmore section will have 200 cars and Piru and Camulos twentyfive cars. Of the lemons there will be 350 cars from Santa Paula and Limonera, and 60 cars from Fillmore. Last year Limonera, where the b iggest lemon orchard in the world is located shipped 265 cars. Many new orange and lemon orchards have been put out during the past season.

Perhaps the most profitable lemon trees in the whole State this year are eightytwo full bearing Villa Franca trees in the neighborhood of Chula Vista, San Diego county. They have had a phenomenal summer crop, and besides the fruit has brought extraordinary prices. From these trees on less than an acre, have come 332 packed boxes. These went in a car to Boston in September, and they sold for $6.73 a box. Mr. McPherson got as his share of sale $1713, or at the rate of $2000 an acre for his crop.

One of the best reports of lemons is that which comes from the Carpenter twenty-acre grove at Santa Paula, in Ventura county. The grove has yielded 3748 boxes of lemons since May 14th, and the exact and aggregate returns from the sale of these are $11,647. The net returns after deducting for picking, packing and boxing, are $9862. The grove has yielded since November, 1904, 8553 packed boxes of fruit, and the total net returns from the property have been $12,236. Mr. Carpenter paid $21,000 for the grove in 1903.

AGRICULTURE.

Farmers around Berros and Nipoma report general agriculture crops rather lighter than those of average years.

There is considerable agitation in Tulare county over the suggested organization of a county agricultural society.

The first rain of importance fell at Highland, 5th and 6th, amounting to 1.03 inches. Farm lands were put in fine conditions for plowing.

Last week 312 carloads of potatoes were shipped from Stockton, and every day for over a week a trainload has been sent out by the several shippers.

There are on exhibition at the Riverside Chamber of Commerce two mammoth pumpkins. One of them weighs 117 pounds, and the other 90 pounds.

The farmers around Dixon are awakening to the importance of alfalfa in that section and the coming season will see a heavy increase in acreage over that of past years.

Ventura county ranchers get five dollars per ton for baled bean straw, in the field. It is used for cattle feed mixed with beet pulp and in some cases it is fed to horses.

Fuller Brothers again rented a large portion of the Olinda ranch near Fullerton and will seed about 2000 acres to barley and will plant thirty acres to cabbages.

Valley Center's ranchers have garnered large hay and grain crops this season, and in fact all farm products for the season or year of 1905 should be recorded as altogether satisfactory.

The cantaloupe growers of the Exeter—Lindsay district met last week, and after a short discussion concluded to organize an association for mutual benefit and head off the steal of the next year's crop.

H. M. Prouty, of San Jacinto has the first ripe ears from his fall crop of corn, 83 days from planting. The variety is the "Minnesota King," the old eight-rowed variety grown in the northern states. It does very well here as a fall crop.

Pie pumkins continue to go out from the San Fernando Valley by the carload to the cannery in Los Angeles. In all about 300 tons will be shipped and the ranchers say that they can't see that any have been taken, the crop has been so heavy.

The first complete trainload of potatoes ever shipped from California by one firm was sent east this week from Stockton. It consisted of thirty five refrigerator cars containing 270 sacks to the car, or a total of 9450 sacks of 1,334, 000 pounds of tubers.

Farmers in Central Washington are pooling their wheat with the view of holding until they can secure 75 cents for their crop. A large number of heavy producers are enlisted in the movement, and it is expected to tie up nearly 2,000,000 bushels in the pool.

Hops are reported as seling in Oregon all the way from 9 to 11 1-4 cents, the latter figure being reported as paid for an exceptionally fine crop. It is claimed that the mortgaged crops are now nearly out of the way and that hereafter better prices will be got.

Over three inches of rain fell in the Westminster section of Orange county last week, followed by clear, warm weather. Grass and other vegetation has started finely. Celery shipping is brisk, about ten carloads going out daily. Many farmers are plowing and sowing barley.

A "tough" melon story comes from Sonora, Tuolumne county to the effect that a man recently operated upon for appendicitis was found to have a melon vine growing in his in'ards, bearing a well developed melon of five pounds weight. This is indeed intensive agriculture.

The third of the season's rains, amounting to 3.25 inches, fell at Campo in San Diego county last week. It was a fine, warm rain and injured nothing; it will start the fillari grass and brighten the permanent meadow grasses and will also enable farmers to begin plowing in good season.

The grape yield was very light in El Cajon this season owing to a late frost. The crop was mostly shipped green and Los Angeles was the market getting most of it. Farmers are happy over the present outlook from the heavy rainfall—it being the greatest for the month in fourteen years.

The present condition of the Santa Rosa hop market is not specially encouraging, for the growers are not being offered prices that are inducing them to part with the season's crop in large quantities. Some of the dealers predict that prices will be still lower, and are advising holders to sell before the market drops any lower.

The manager of the California Raisin Growers' Company at Fresno, received notice from 137 different insurance companies withdrawing their insurance from the packing-houses and fruit now owned by the association. Raisin insurance is regarded as extra hazardous and is divided among several hundred companies for that reason.

An item has been going the rounds of the press noting as a phenomenal production a yield of 900 beans on a vine in Ventura from one seed. The Connell Bros., in Santa Cruz county, believing that they had vines of greater productive qualities, counted the yield from one seed planted on their ranch and the result was 1859 beans—and this is an apple and strawberry valley, too. Next!

The unusually heavy rain first of the week benefitted San Diego county beyond computation. In the higher portions of the county the rainfall exceeded five inches; at ordinary elevations, where large ranches are located, the rainfall averaged between three and four inches. There was very little run off. The soil is in splandid condition for plowing annd farmers are putting in every available acre to grain. Citrus and olive orchards are in better condition than for years.

LIVE STOCK.

Weaver & Edie recently brought into Imperial valley from New Mexico, over 6000 head of sheep.

Escondido reports that the prices of fat hogs and cattle in that section are very high, and the ranchers are highly pleased with their returns from the sales thereof.

San Juan reports busy times out at the Chili pepper farm. All the way from 50 to 75 people are daily employed in picking and 2600 to 2800 boxes are daily being handled.

The report comes from Mendocino county that the stock men are much exercised over the delay in the fall rains, and fear they will have a hard time getting their stock through the winter.

Live stock and poultry have had a good season around Nipoma and Berros in Santa Barbara county, this year, while general crops have been light, so that added interest is being shown in the first named industries.

A BIG DOLLAR'S WORTH.

The December number of the Delineator is nothing short of a "whopper" with its total of 250 pages filled with matter of value and interest to every member of the household. In addition to its extra large size it contains several beautiful colored plates on subjects of general interest, and best of all is the promise of the editor that every number for 1906 will be fully up to the standard and size of this mammoth number. When we note it is still at the same low price, one dollar a year, we cannot but feel that it should be in every home.

LINERS

FRUIT GROWERS, ATTENTION.—USE Griffith's Smudge Fuel. Don't let your fruit freeze when you can be protected by using Griffith's Smudge Fuel. Stoves, 50c each; 20 stoves per acre, stoves good for ten years. Fuel $8 per ton; 16 lbs. to the stove lasts four hours. Address, 1023 So. Broadway, Los Angeles.

C. H. SESSIONS, ASSOCIATE EDITOR

DISEASES OF CATTLE AND HOGS.

By Charles Keane, D. D. S., State Veterinarian.

The following paper was read at the Farmers' Institute, Dinuba, Nov. 2d.

Live stock, as you are aware, suffer from a number of contagious diseases, some of which are directly comunicable to the human being, and these are interesting to the stock raiser and farmer not only from this important fact but also from an economical point of view. We have also a number of communicable diseases affecting live stock and which are interesting to the stock raiser only from an economical standpoiut.

This paper must necessarily be brief and practical, and for this reason we will only mention the diseases that are more commonly met with in this locality, and we shall endeavor to do this in as concise and practical a manner as possible.

Of the class of contagious diseases not directly communicable to man, and from which from time to time you have suffered losses, I might here mention the following: black leg, hog cholera, contagious abortion in cows and southern cattle fever.

Black leg is a more or less common affection among young cattle throughout the Western country. It is a wound infection disease, that is to say, an infective disease due to the absorption of the bacilli of black leg into the body through injuries in the skin or mucus membrane. The disease is characterized by a rapidly increasing swelling at the seat of inoculation. This swelling crackles on being handled, due to the presence of gas therein. These swellings may appear on different parts of the body, and are usually found on the upper parts of the thighs, neck, shoulders, lower regions of the chest, loins, and brisket. Occasionally the region at the base of the tongue is the seat of the swelling. The swelling is at first small and very painful but rapidly increases in size and becomes painless. The disease runs a very rapid course, and as a rule, ends fatally in from one to three days. Black leg seldom attacks cattle over one year old, although cattle up to five years old have been known to become affected.

Black leg is such a malignant disease, and its course is so rapid that curative treatment is out of the question. We have, however, an excellent preventative. This consists in the introdutcion beneath the skin of susceptable animals of a vaccine consisting of an attenuated form of the bacilli which are the cause of the disease. This is introduced either in solution by means of a hypodermic syringe or in solid form, either by means of a cord, or by means of a special instrument in the form of pill. When the vaccination is performed properly and cleanly, and if the vaccine used be good, perfect immunity is conferred to practically every animal vaccinated. My advice to farmers and stockmen who have annual visitations of black leg is to vaccinate their young stock every spring and fall. You know about the time the disease usually breaks out and it then becomes your duty to vaccinate some little time before this occurs.

Texas or Southern cattle fever which in former years occasioned great losses in this county is practically stamped out here. I belive we have only one infected ranch in the county, and we will devote our efforts to clean that up. You are in no danger of receiving the infection from the Southern counties in this state as we are maintaining a very rigid quarantine.

Contagious abortion among cows has appeared at different times along this valley. This disease is decidedly of an infectious nature although the specific organism has not yet been isolated. The disease is very difficult to suppress when once it gains access into a herd of milk cows, and as a consequence is the means of much loss to the dairyman. It must be combatted with the most rigid sanitary measures. Cows in calf not affected should be separated from cows which have aborted, and they should be handled by separate milkers, etc. All slunk calves, their envelopes, and discharges should be cremated. The posterior parts of the affected cow should be thoroughly disinfected with a two per cent. solution of lysol, or 1 to 2000 solution of corrosive sublimate. All the manure and sweepings in the barn should be removed and burnt, and all woodwork disinfected with one of the disinfectants mentioned. The vagina and womb of the affected cow should be irrigated once a day for two weeks with the two per cent. solution of lysol. This is done by means of a hose and the solution is poured into the hose from an elevation and allowed to gravitate into the uterus. The bull should receive proper attention, and not be allowed to serve both affected and non-affected cows. A very good plan is to disinfect his genitals daily as long as the disease persists. I belive the bull the greatest factor in spreading the affection among cows.

For hog cholera we cannot give you very much encouragement. The U. S. Department of Agriculture has been endeavoring for some years past to manufacture a serum for use as a preventative against this disease but the Department has not yet been successful. The trouble seems to be due to the fact that hogs very often suffer from several entirely different affections at the same time. Of course all sanitary precautions should be adopted such as, removal of the healthy from the sick, cleaning up and disinfection of premises, and cremation of dead animals. Separate attendants should attend the sick and healthy animals. A practice which is coming much in vogue, and from which good results have followed in hog cholera outbreaks is to run the hogs through a dip into which is placed a disinfecting solution, such as a 2 1-2 per cent. solution of creolin.

Coming to the diseases that are directly communicable to the human family, and at the same time have an economic importance to the stock-raiser and farmer, we might here mention three, viz: anthrax, tuberculosis, and glanders-farcy.

Anthrax is a disease of great historical interest. It is perhaps the oldest-known infective disease of animals. It is considered to have been one of the plagues of Egypt, and from which great numbers of men, cattle and mules died. A number of human deaths have been reported in this state from direct inoculation from affected animals. This inoculation of man usually takes place through the pernicious practice of skinning animals which have died from this affection. The disease usually manifests itself during the fall of the year on low, marshy, undrained lands. Preventative inoculation, when the vaccine is properly manufactured, and properly administered, has been of some assistance in checking anthrax outbreaks. The most rigid sanitary precautions should be adopted when this disease manifests itself.

You are all pretty well educated on the subject of tuberculosis, but the insiduousness of this disease cannot be impressed on your minds too strongly. That this disease is communicable to man through the flesh and especially the milk of affected animals there is now no question. We have a means of cleansing our herds from tuberculosis by means of ascertaining the affected animals through the tuberculin test. But after ridding the herd of the tuberculosis cows it is absolutely necessary to see to the proper sanitary conditions of the healthy animals. Plenty of light and ventilation in the cow barns is an essential feature in preventing re-infection of the herd. Good drainage is also essential. The barn floors should be impervious to seepages, and the feeding troughs should be constructed of concrete or lined with metal so they can be thoroughly flushed out after each feeding. In bringing new stock into the herd they should first be tested in order to eliminate any which may be tuberculous.

While speaking about tuberculosis I would like to call your attention to the alarming extent of tuberculosis in hogs which prevails at the present time. Since the introduction of the centrifugal process in the separation of cream from milk tuberculosis in hogs which have been fed on skim milk has increased alarmingly. This is due to the fact that during centrifugalization the majority of bacteria, the tubercle bacilli among them, are conglomerated in the sediment left from this process, and this is very often fed to pigs. Of course this can be very easily eradicated by cooking before fed to pigs. I do not believe that cooking will greatly, if at all, affect the nutritive value of the skim milk.

The subject of glanders-farcy is one that you all should take great interest in. It is a disease fatal both to man and solipeds, as well as to a number of other domestic animals. Its prevalence in this, as well as other states, is due to carelessness and criminal negligence. Right here let me mention that glanders and farcy are one and the same disease, differing only in external manifestations. In a broad sense farcy is that form of the disease where the skin is affected, while in former times when the nostrils and internal organs, especially the lungs were affected, the disease was termed glanders. At the present time no matter in what portion of the anatomy the disease is located the affection is called glanders-farcy, a compound word. This disease is characterized by a discharge from the nostrils usually from only one; the formation of ulcers or chancres on the mucus membrane of the nostrils, and tumefaction or thickening of the kernals or lymphatics in the space between the lower jaw bones. Glanders of the skin manifests itself in the formation of nodules or boils, the favorite seat of which are the limbs, shoulders, and along the sides of the body. These nodules vary in size from a pea to a walnut. The lymph vessels in the neighborhood of these nodules fre-

TUBULARS WRING GOLD FROM MILK
Tubular butter brings 25 to 35 cents. Cream is worth only one cent for stock food. Yet many farmers have no separator—only half skim their milk by setting—lose 24 cents on cream fed to stock—and wonder why dairying don't pay. Tubulars stop this loss.
Tubulars get the last drop of cream out of the milk—make big profits. Tubulars are the only modern separators. Notice the low can and enclosed gears. Write for catalog S-260
THE SHARPLES SEPARATOR CO., WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.
Sharples TUBULAR CREAM SEPARATORS

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. J. E. FISHBURN W. C. MARBLE, Secretary.
STERLING MILK COMPANY INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

quently become irritated and stand out like whip-cords. Any horse, mule or ass with a chronic discharge from the nostrils is a suspicious animal, and should be examined by a competent veterinarian. Frequently we have what we term occult glanders, and as the name indicates no external symptoms of the disease are manifested. The disease is usually located in the respiratory tract. These occult cases of glanders are the greatest factors in spreading the affection on account of the fact that the disease is not suspected to exist in the stable, and consequently no precautions are taken. We have a test, called the mallein test, which is used to detect cases of occult glanders. This test is similar to the tuberculin test. It is necessary then, in order to stamp out this malignant disease, when glanders is found to exist in a stable, to test the remaining animals in order to detect the presence of any occult cases. Without taking this precaution it is almost impossible to eradicate the infection.

We should bear in mind the fact that in glanders-farcy, as well as in all other contagious diseases of animals, the most rigid sanitary precaution should be observed. All animals which show physical signs of the disease, as well as the animals which react to the mallein test should be taken out and destroyed, and their carcasses cremated. The stable should be thoroughly cleaned and disinfected. Halters, harness, in fact everything that has been in contact with affected animals should be thoroughly washed with a disinfecting solution. All woodwork in the stable should also be thoroughly disinfected and later whitewashed. Attendants in charge of suspicious cases should be cautious to adopt sanitary measures in order to protect themselves and to prevent the spreading of infection.

THE COLT THAT SCARES.

"We have all had experience with frightening colts, I have," says J. A. Dobie in Successful Farming, and I want to say a few things about them."

"Nearly every colt when first driven away from home will scare and shy more or less. If he does not, he is a dull, stupid thing. He does not scare from meanness, but because he sees something he thinks is going to hurt him. I know how provoking it is to have fed a horse hay three times a day and when taken out on the road to see him scare at a little bunch of hay by the roadside. The first thing that comes in our minds is to give him a cut with the whip and jerk him back into the road. Nothing worse than this could be done. The next time he will not only be afraid of the object but of the whip, also. By a little training in this way he will soon be confirmed in the habit of scaring and shying off at every unusual object he sees. Many good horses are ruined by this senseless practice.

Let him take a look at this frightful thing, and as soon as he learns that it will not hurt him he will pay no attention to it. The man who cannot take time to do this is too busy to train a colt. It is not best to lead him past an objects than frightens him, if it can possibly be avoided. He will soon want to be led past everything he does not like the looks of. He can be driven past almost anything if he is given a little time to look at it.

The horse that whirls square around in the road when frightened at something ahead of him is not only disagreeable but dangerous. It can be prevented when he is driven double, but not always when he is alone. The remedy is to work him with a trusty animal at first, and then alone to some two wheeled rig, handling him carefully, but firmly. Only recently I was badly hurt by being thrown into a barbed wire fence by such a horse, although he didn't get away from me.

What shall we do with the horse that takes fright and runs as if possessed by a demon, paying no attention to any bit, however severe? It is hard to answer. Some of these cases are hopeless. I would like to submit a few don'ts: Don't take an aged person, a helpless child, a timid man or screaming woman in a rig behind such a horse. Don't attempt to work him without a severe bit, strong harness, strong lines, strong hold-back straps and a stout rig. Don't take any chances, believing that you can handle any horse, for you can't. The man who has had real experience never makes such claims. The one who does is the boy in his teens, or the man who never ran up against a really bad case.

Almost always, a man can control and cool down a horse, provided he can control himself and keep cool. Some men get rattled as soon as a horse pricks up his ears and quickens his gait, and their bawling, frightened voice will scare him, about as badly as anything else. On the other hand, if we can get his confidence, if we can make him believe that nothing can hurt him so long as we have him by bit or lines, it is really wonderful what may be done in the way of controlling him by the voice alone.

After all, everything depends on the man. If he has not patience, if he is not cool headed, if he has not sufficient interest to study the horse and the best way to manage him, he will meet with poor success. Excitable, quick tempered men are usually cowardly Such as these should never attempt to handle the unruly horse.

TO FEED IRISH POTATOES.

Is it better to cook Irish potatoes or feed them raw to pigs? Please answer in Cultivator.—A. P., Anaheim.

If you can boil potatoes and mix with bran, salt a little, you will get better results for fattening than to feed raw.

BEEF TYPE v. DAIRY TYPE FOR BEEF PRODUCTION.

The Iowa Station has recently reported the results of a year's feeding test to determine the relative economy for beef production of the beef and dairy types of cattle, a question which is receiving much attention at the present time. The results attained are summarized as follows:

Dairy type steers show a considerably higher percentage of offal and a lower dressing percentage.

Dairy type steers carry a higher percentage of fat on internal organs, thereby increasing the total weight of cheap parts.

Beef type steers carry higher percentage of valuable cuts.

Beef type steers furnish heavier, thicker cuts; they are more evenly and neatly covered with outside fat, show superior marbling in flesh, are of a clearer white color in fat, and a brighter red in the lean meat; but there is little difference in fineness of grain.

The low price paid for dairy steers may be due partially to prejudice, and to the greater expense of carrying and selling the lower-grade carcasses; but it is chiefly due to an actual inferiority in the carcasses.

It is neither profitable nor desirable to feed steers of dairy type for beef purposes.

They are unsatisfactory to the consumer because they do not furnish thick and well marbled cuts; they are unsatisfactory to the butcher because they furnish low-grade carcasses which are difficult to dispose of, and they are decidedly unsatisfactory to the feeder, because they yield him little or no profit, and both breeder and feeder waste their time in producing such a type of steer for beef purposes.

MILK ORDINANCE DEFEATED.

A decided victory was won by Berkeley milkmen recently, says the Encinal of Alameda, over the restrictions placed upon them by a town ordinance, which they succeeded in having declared unconstitutional. The law required them to get a permit from a food inspector, and before this would be issued they were forced to sign their consent to the provisions of the ordinance, which virtually made them sign away the right to redress in case their animals were killed illegally, and upon this point the ordinance was declared invalid by Judge Melvin."

The milkmen objected to the new milk ordinance recently adopted in Berkeley on the ground that it required the examination of every cow with the tuberculosis test, the milk from which was sold within the limits of the town. The milkmen there consider that they have won a decided victory.

The ne wmilk ordinance recently passed by the Oakland City Council does not require the tuberculosis test, but does require that each cow be given a thorough physical examination. To this the milkmen in general do not object.

Dr. A. R. Archibald, milk inspector for Oakland, in an interview concerning the decision in the Berkeley case, expressed the opinion that the requiring of the tuberculosis test should be made under a Federal or State law, and that single communities should not attempt to introduce it in their milk ordinances.

The American Breeders' Association will hold its second annual meeting at Lincoln, Nebraska. Arrangements have been made for a three days' session.

The American Breeders' Association will be the guest of Nebraska's numerous agricultural societies which will meet together at Lincoln during "Agricultural Week." Several of the sessions will be held jointly with one or more of the state societies interested in animal and plant breeding.

Thoroughbred Poland China Swine and Black Minorca and Barred Rock Poultry
High grade stock of best strains Young stock for sale. M. BISSETT, HANFORD, CAL.

DEVON CATTLE
The Devons are hardy, easily kept and will fatten at any age. Docile, excellent milk and butter producers, and an ideal general purpose cattle. Stock for sale.
L. V. McWhorter & Sons - North Yakima, Washington

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Berkshire Boars For Sale
At Gen. Shafter's ranch near Bakersfield. Fifteen fine young Boars on hand, now old enough for service. They are out of Imported English Sows, Artful Lee sire. Prices from $15 to $20. Address
Gen. Shafter - Bakersfield, Cal.

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd Also Black Minorca chicken eggs in season. Stock for sale, also bred sows. W. R. McCASLIN & SON. Walsh Station, Sacramento County, Cal.

For Catarrhal Fever Pink Eye, Distemper and all diseases Nose and Throat
Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1.00 per box, ½ doz. $5.00. Sold by druggists, or sent express paid
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.

Satisfaction or No Cost
The honest method of selling. We could fill this paper with testimonials of how Security Stock Food has made money for others. We prefer to prove what it will do for you.
Use **Security Stock Food** (glutenized) for growing animals; for fattening animals; for work horses; for milch cows. The Food won't cost you a cent if you can't see that **Security Stock Food** has saved feed, made quicker growth; kept your animals in better condition, given more milk, and made you more money. Write us if not satisfied and we will refund price in full. You are the sole judge. No questions asked.
For five years this guarantee has been on every package sold. It also covers Security Poultry Food, Lice Killer, Gall Cure, Colic Cure, Worm Powder, Calf Food, Heave Remedy, Healer and Rheumatic Liniment. Security preparations are sold by dealers in almost every town in the United States, who will recommend them highly and "back up" our guarantee.
SECURITY IS THE ONLY GLUTENIZED STOCK FOOD.
SECURITY STOCK FOOD CO.
MINNEAPOLIS, MINN.

SPINELESS CACTI.

By Geo. P. Hall.

Much has been said and written of late, regarding the possibility of solving the problem of making spineless the opuntia section of the cactus family, which is indigenous to the arid regions, especially portions of California, New Mexico, Arizona and even further north. The only difficulty in making it an availabe product for sustaining herds of cattle is the presence of innumerable spines.

In the dryest portions of the desert it may be found in places where it seems little less than a miracle that it could survive. We shall not in this brief article attempt a description of the many members of this wonderful family, but speak of the one most known to residents of the Western part of the United States and Mexico.

There are several well-known forms of the opuntia section growing in Southern California, being everywhere present and known to all. The flat, broad leaved opuntias covered with bristling spines that make them dangerous to handle unless well guarded, is however the variety that is sought for as food for stock and even in its spiny condition stockmen use it, after by various means removing as many of the spines as possible. But the plant-breeders have been attempting to produce a spineless sort, one that stock can feed upon without danger of their mouths being lacerated by the cruel thorns.

For many years it has been known that a variety of opuntia that was nearly without spines was growing generally in the neighborhood of some of the old missions, where it had been planted in the early history of the state. From these parent hedges have been taken from time to time leaves (or lobes) and planted in many parts of the state. The majority of them are not entirely spineless because they were planted as curiosities and permitted to grow their own sweet way without any idea of making them better than were the original forms, hence are little better as a food product than the wild kinds bristling with a fierce array of thorns.

It has been our privilege, however, to be put in communication with a gentleman who has a limited quantity of the genuine spineless opuntia, the lobes are large, thick, succulent, and reproduce themselves very fast, especially where water and cultivation is accorded. The discovery of this lot of cactus, from which a supply is now available, was made by Mr. J. C. Hill, a civil engineer, while surveying the line for the irrigation ditch for the Escondido water supply. He brought home a specimen, being particularly fond of the varying forms of cactus, and it has of late years been in the keeping of his venerable father, who has supplied the family cow, fowls and ducks from the hedge, planted some years since. Where it is watered it produces immense succulent lobes a foot or more in length and nearly an inch in thickness.

In the vicinity of San Antonio, Texas, the spiny cacti are in great demand and are prepared by burning the spines from the lobes. Mr. J. W. Stacher feeds 100 dairy cows regularly for three or four months in the winter. This is the ration he gives: cottonseed meal, 2 pounds; cottonseed hulls, 8 pounds; bran of wheat or rice, 10 pounds and 30 or 40 pounds of singed "prickly pear" cactus. Mr. Hagerson, a neighbor, having no "pears" buys the cactus for 25 cents for loads of a ton each. He feeds his cattle a ration of bran, 9 pounds, hulls 10 pounds; singed "prickly pear," 30 to 40 pounds.

We give these instances, taken from the Government report, to show that the larger portion of the food is cactus. But the whole history of cactus feeding is blemished by the injury occasionally done to stock by feeding the spiny cactus only chopped up, without the spines being burned off, and even with burning the difficulty is not entirely removed.

This article of food, if rightly handled, will, no doubt, eventually add thousands of dollars to the advantage of the stock grower, dairy man and rancher in arid sections. It is a green feed he can procure when every other kind is dry, is the most succulent leaf in existence, increases the flow of milk, and is an excellent basis for a complete food ration for poultry, swine or sheep. All stock will eat it with avidity. It is one of the newer useful plants that will doubtless solve many problems for the future rancher and stockman.

SYMPTOMS OF HOG CHOLERA.

Editor Cultivator: Will the Cultivator please give me the symptoms of hog cholera? I have lost twelve shoats within two weeks, and don't know the cause. Veterinarians here say my pigs have cholera.—W. B. D., San Luis Obispo.

It is quite difficult to give all the symptoms of hog cholera in one paragraph reply. They differ. Some seasons certain symptoms appear and the next time a wave of the disease comes along a new set of symptoms will manifest themselves. But the result is usually the same—death.

The usual symptoms are: Fever and chills, loss of appetite, loss of flesh, extreme weakness, diarrhoea at the end of the second or third day, bleeding from the nose, closed eyelids, aimless beating about, stumbling, thickening of the ears, red blotches on the belly and ears and lastly bloating—then death.

When any two of these several symptoms manifest themselves, cut out the affected animal from the herd, put in a clean, warm, dry pen and apply the remedies heretofore given in these columns by the editor, who is an experienced hog breeder and raiser, or by Dr. Oliver of the veterinary department of this paper.

LUMP JAW.

Editor Cultivator: Will you please tell me through the Cultivator if there is any cure for lump jaw on cattle when it first starts and oblige.—A. L. N., Santa Maria.

In this number appears a receipe for lump jaw in its initial state.

The party who gives it, Mr. Ball, says he has used it with success. We never have tried it.

LUMPY JAW.

Mr. Eldridge Ball of Arroyo Grande says he has found the following recipe to prove a sure cure for lumpy jaw: Mix well equal parts of pure hogs lard and arsenic, and apply to the affected parts with small flat stick—he says he has also found this a good remedy for warts on horses legs—burn what is left after using.

INOCULATION MAKES BETTER HAY.

The Michigan Experiment Station has been investigating the inoculated nodule method, in regard to its effect upon the composition of the crop. Many farmers have reported that the presence of the nodules has not increased the bulk of the crop; but the station reports, after analysis that the nodules increase the amount of protein present. Two areas of soy beans flourished side by side, one with nodules, the other without; no difference in color, height or earliness was noted, nor greater weight of hay. When analysis was made of the hay, however, it was found that the hay from nodule-bearing plants contained 18.52 per cent of protein, while the hay from non-inoculated plants contained but 9.56 per cent. With cow peas the experience was similar.

The up-to-date dairyman feeds a balanced ration. We suggest that he add patience and supplement the same with kindness, which will surely bring good returns.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

SLOBBERS.

Editor Cultivator: I have a mare that is drooling some, hair looks rough and does not look well in the eyes. What would you suggest for her? She is not old and I had her teeth fixed.

Please let me know through Cultivator.—F. S. D., Vacaville.

If you have had the mare's teeth properly treated, examine the mouth particularly under the tongue for barley beards or fox tail, that or sharp teeth cause the drooling. The cause indigestion; give the following: sulp. of iron 8 ounces, powdered gentin 6 ounces, willow charcoal 4 ounces.

Give good tablespoonful twice a day in bran, mash or rolled barley.

* * *

INDIGESTION.

Editor Cultivator: Please tell me the cause of the condition of my horse. His bowels are not right. He passes too much water with his stools. He has good feed and little work. He is in poor flesh.—P. C. B., Corona.

Your horse has indigestion from improper mastication. Mix 1-3 bran with his barley and feed dry. Give along with feed a cupfull of oil cake meal at each feed. Don't water for one hou. after feeding.

* * *

UNCERTAIN IMPREGNATION.

Editor Cultivator: Will you please tell me what is best to do with a young heifer (her first calf now about nine months). Cannot get her with calf. have driven her three times and changed the male once. Please answer through this week's Cultivator.—R. P., Riverside.

It will be necessary to have the os uteri dilated. This will require the services of a person who understands the anatomy of the parts and proper appliances.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

Must be Sold by January 1st, 1906

Having sold my ranch. I am forced to sell 40 head of Registered and Grade Jerseys Ten registered cows, milking now; 4 young heifers, eligible; 8 bulls, registered or eligible; 18 cows and heifers, pure bred and grade, not eligible. This herd represents some of the best blood on this coast. Parties wishing to see the stock can take Santa Ana electric car and get off at Hansen. Station is right at the ranch.

W. J. Cole, R. F. D. 1, Anaheim, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore. 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***if not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

leads the Ramona Herd of Registered Jerseys of

Geo. W. Thomas, Riverside, Cal.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Beruardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business Abundant green feed every day in the year will be of great advantage in the best development of our young stock.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD

JEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

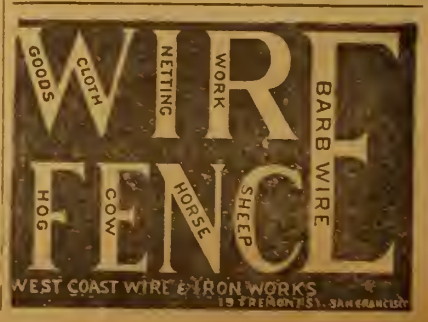
La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want.

J. A. CAMPBELL. Buena Park, Cal.



MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

OPERATING AN INCUBATOR.

In our last talk on Biddy and the incubator we decided that in order to compete with Biddy, the incubator must be properly located in a well ventilated room, must be perfectly level, tested by a carpenter's spirit level, the thermometer also must be absolutely correct and tested, and if the old thermometer has been broken the new thermometer must be tested and hung in the same position as the former one, the bulb being exactly in the same level as the one which belonged to the machine; a little difference in the height or in the position of the bulb may make a great difference in the heat on the egg tray. You cannot be too careful and particular about these small items, perfecting these means success; carelessness or trusting to "luck," means failure.

We saw also in our talk on "Biddy and the incubator" how necessary it is to feed the fowls properly to secure fertile eggs, but all fertile eggs will not hatch, there must be certain conditions of the egg and amongst the most necessary is a good egg shell, neither too thick nor too thin, but just right.

"Don't put eggs into the machine that you think may not hatch, and above all never sell eggs for hatching which you think are doubtful. I said to a friend "But how can you tell" asked my friend "before you put them into the incubator, which eggs will not hatch?" "You cannot tell all of them," was my reply, "but after supper we will look at the eggs you have ready and I will show you those that will not hatch. After supper we put the trays of beautiful fresh eggs on the diningroom table, put the egg tester on the lamp and then looked at each egg as if testing it. Any egg that was chalky to the touch, or had light spots on it or was freckled all over with clearer places or having one or more light thin places, or thin at the little end, or cracked, or crooked was rejected. A few of the doubtful I marked with "d" and left them in, (these, I afterwards heard, did not hatch,) I think I tested out fifteen out of three hundred, these were replaced by other good eggs. It is much easier to detect the imperfect or unhatchable eggs by looking at them through an egg tester than by merely feeling them, of couse it is a little more trouble but it is a saving in labor and a lessening in expense of oil, besides giving more room for hatchable eggs and a better chance for a good hatch, as the infertile eggs chill their fertile neighbors and draw from their vitality. Therefore select carefully your eggs before putting putting them into the incubator.

* * *

Poultry keeping is made up of little things and is so easily ruined by little things that I will add a word of warning about testing, do not hold the egg in testing it so close to the lamp that it will heat it. The tiny germ of life in the egg is very tender and may easily be killed by the heat of the lamp, or any sudden jar (handle the egg as carefully as oranges.) To avoid heating a small spot on the egg and to facilitate testing large numbers of eggs I made a home-made tester out of a cardboard cracker box. I cut a hole the size of half a dollar, just opposite the place where the flame of the lamp came, when I set it inside the box, in this way I did not overheat the egg when testing and could handle eggs very quickly. I found this box egg tester very handy for testing eggs under setting hens out of doors, using a lantern instead of a lamp. Eggs whether under hens or in incubators should always be tested. There are thousands of eggs lost and wasted every year from carelessness in this matter. An egg which is infertile, in which there is no germ of life, and that has been under a hen or in an incubator for a week is perfectly good for food. It is simply an egg that has been in a warm place for a week and is as good or better than the average store egg. Infertile eggs keep fresh much longer than eggs that have been fertilized, there is no germ of life in them, so there is nothing that will die, there is no dead germ in them.

Persons who are raising only eggs for market should keep no males and never have fertile eggs.

* * *

Do not put eggs from different classes of fowls into the same incubator. Hens' eggs take twenty-one days to incubate but if eggs from Leghorns are placed in the same tray with Brahmas or Rocks, the Leghorns will be the first hatched, sometimes as much as two days sooner, to the detriment of the larger breed, which are slower in hatching. The danger lies not only in the earlier hatched chicks walking over the eggs but from the change in the atmosphere and temperature at the time of hatching. The air in the incubator is then always heavily charged with moisture and the temperature always rises during a hatch from the activity of the chicks, and it is exceedingly difficult to regulate the temperature when the incubator is full of chicks in all stages of hatching. The rise of temperature does not hurt the chicks that are just breaking out of the shell, but if it takes place two days too soon, it will ruin the hatch of the heavier and slower breed, many chicks will be smothered in the shell. Experiments that I have made along these lines have always given the same results.

It seems needless to say that the eggs should be clean. Any dirty eggs should be washed in tepid water, before putting them into the incubator. All ducks eggs should be washed as they are usually covered with dirt. Dirt or grease or a broken egg will so coat the eggs as to prevent evaporation and the circulation of air and will smother the life out of the germ or embryo.

Choice Alfalfa or Chicken Ranch
Twenty acres good sandy loam soil, no alkali, abundance of water, 5-room house, large barn and incubator cellar. Near Anaheim.
WM. A. GREEN, BOX 401, ANAHEIM, CAL.

Walnut Grove Poultry Ranch
Standard Bred White Wyandottes, (Hay's strain). Eggs for hatching from carefully mated stock, $2 per 13; $12 per 100.
F. L. Hogue - Carpinteria, Cal.

WHITE LEGHORN CHICKS, 10 Cts.
WHITE PLY. ROCK CHICKS, 12½c.
Both from good stock and in good healthy condition. The W. P. Rock males where I got my eggs are from prize winning stock. Leghorns are selected and have good markings. This is a fine time to star young chicks, after the rain; yards purified, green growth coming and mites and lice at a disadvantage
Wm A. Green, Box 401, Anaheim, Cal.

Dean's Pacific
My ads are not so large, but I can assure you that my Incubators are **JUST AS GOOD** and my prices are lower. "Facts from Experience" and catalog free.
DEAN'S PLACE, 2509 CENTRAL AVENUE, LOS ANGELES

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

SOUTHERN AGENTS FOR
Swift & Co. Granulated Beef Scraps
ABSOLUTELY PURE MEAT

The greatest Beef Scrap on the market. If you want the best results from your fowls feed Swift's Beef Scrap. It helps them through the moult keeps them healthy and produces early layers. Send for sample. We handle in car loads and are prepared to fill all orders promptly.
Southern Agents for Petaluma Incubators. Pacific Coast Agents for Steinmesch Chick Food
ALL UP-TO-DATE POULTRY SUPPLIES
S. H. Church - 505 S. Main St. - Los Angeles, Cal.

EDITOR'S QUESTION BOX.

Ducks, Etc.—(Mrs. S. D. K., Orland). After seven months of trying the eastern climate, I am back in California "for keeps," and the few weeks I've been here have so built me up that I am back into the poultry business with more inthusiasm than ever. In fact I knew how it would be and brought with me seven beautiful Mammoth Bronze turkeys hatched from eggs from Mrs. Schoffner's flock, at Mulberry, Tenn.

The Tom she exhibited at St. Louis weighed 55 pounds.

Now, we have 14 Pekin ducks and I know next to nothing about their care. Will you please tell me where I can get the needed information? I would love to ask for a personal letter, but will not because I know how very busy you must be now after your trip, which I trust you enjoyed to the fullest extent. So please just insert a line in the "Cultivator." O, I must tell you I had the "Cultivator" sent east when I left last spring, and my mother likes it so much that I have never changed it. Will subscribe anew for myself. Then Mr. K——'s mother was so delighted with it that she asked me to send in her subscription with my own. So the Cultivator will visit two homes in Southern Indiana next year.

Answer. The Cultivator is glad to welcome you back to sunny California and appreciates your kind words. In the editor's question box on November 10th, is a reply to your question about Pekin ducks.

You would find one of the Reliable Poultry books called "Ducks and Geese" (price 50 cents) of great help to you. It can be had at any poultry supply store or by sending 50 cents in stamps to the Reliable Poultry Co., Quincy, Ill., it will be sent to you.

* * *

Packing Eggs.—(E. J. D., Corona). I want to know the very best way to pack eggs for shipment. Your poultry suggestions are always to the point.

Answer. There are a number of patent egg boxes on the market all more or less satisfactory, but the "very best way" to pack eggs is in slat baskets, which I always bought by the wholesale, either at the Los Angeles Woodenware Co., or at a wholesale grocery by the dozen as they were for sale again with the eggs. The small size held one sitting, medium two, and largest size three or more. First of all choose the eggs as I have described in today's talk on incubators then stamp or write your name on the egg, wrap each egg in a square paper. I find newspaper is the best kind as there is more spring and resistance to it than to tissue paper, cut one page of the Times, or similar sized newspaper, into six pieces, this is about the best size, wrap each egg in one piece of paper, I always lay the egg on its side roll it up and twist the paper, (screw it up) at the little end of the egg, so that when all the eggs are wrapped I know which is the little end of each. Put a layer of excelsior (which I buy at a furniture store) in the bottom of the basket, wrap each egg in a little excelsior and place them always with the little end down in the basket, cover with a layer of excelsior, put on this your circular or a paper saying "keep these eggs in a cool, quiet place for twenty-four hours before incubating to insure a good hatch." Then sew a piece of burlap or muslin on top, taking care to fasten it down tightly so the eggs will be kept firmly in their place. A large packing needle and string should be used for the sewing. I have gone into particulars very fully because in all my long experience I only had one complaint of broken eggs.

* * *

Dry Feed.—(Mrs. F. A. F.) I have been much interested in the question of dry feeding from hoppers. The only question with me is this, how can I make the hens take exercise if I feed in hopper? They are shut up in runs and I feed grain in the morning in litter to make them exercise. They are White Wyandottes, and I fear would grow too fat if they took no exercise. Will you kindly tell me what you think of this in the Cultivator.

Answer. Dr. Nottage, who was, I think, the first to advocate the hopper method of feeding uses it only on free range. When the hens are brought into yards for the winter he put the same amount of feed (dry grain) into the scratching pen litter, I tell you this because he is one of the chief authorities and I think the inventor of this method. I feed my White Rocks and Black Langshans (I have only a dozen of each for my own use) in the following way. I keep a hopper full of two parts bran, one part calfalfa meal and one part oatmeal or corn meal, and one hopper of beef scraps, also grit, shell and charcoal always before them, and besides this every morning throw a small handful for each hen of grain, wheat, barley, or kaffir corn into the scratching pen. My fowls love to scratch and it keeps them busy and out of mischief. They do not over eat because the hopper has dry ground feed in it and they can only eat a little at a time. They are never ravenously hungry so never fill themselves up and never get lazy. If the hopper contained whole grains possibly it might be different.

* * *

Clipping a Hen's Wings.—(Mrs. M. of Arroyo Grande) Will clipping a hen's wings cause it to stop laying?

Answer. I had a dozen Leghorns that persisted in flying over a six-foot fence, until my patience exhausted, I cut one wing of each, the next day they tried to fly as usual but fell back into their yard, this seemed to worry them greatly and for a few days until they became accustomed to the new condition of life, they dropped off in their laying, they missed the free run and the extra green food and all the fun of tearing up the garden, but in a short time accepted the inevitable and resumed their laying and I think really did better than before. It is no injury to a fowl to clip one wing as far as laying is concerned.

* * *

Green Bone For Ducks.—J. G. H., Santa Ana. Having a nice bunch of Black Leghorns, I want to still increase in number so have ordered Mann's clover cutter and No. 9 bone mill and as I have a flock of Indian Runner ducks of Mrs. Basley's strain, I would like to know if I cannot feed the ducks with "cut green bone" same as I do the hens, and by so doing get more eggs of better fertility and cheaper eggs so as to give me a little profit?

Answer. Green ground bone, sweet and fresh, is excellent food for ducks as well as hens, and will greatly increase the egg yield. Ducks require more animal food than hens, much more, and if Indian Runners have a very liberal supply of it and green alfalfa they will lay an astonishing amount of eggs. I find that the dried beef scraps and the dried beef, blood and bone, are the grandest food for making ducks lay. I do not now use green ground bone because it is too hard work to grind it myself and if I

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

I have only a limited number of breeding birds left at reduced prices. Order at once. Now booking orders for eggs for delivery after January 1st. Orders filled in rotation.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

LEE'S EGG MAKER

25 lb. Pail, $2.00 WILL 2½ lb. Package, 25c

MAKE EGGS

Henry Albers Co., 315 So. Main St., Los Angeles, Cal.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

Armour's Improved Beef Scraps

Armour's Improved Beef Scraps contain no bone, hair, wool or tankage and are a rich brown color

Henry Albers LOS 315 South Main St. ANGELES

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator

hire a man it costs higher than the dried scrap. You will find it hard work unless you have a motor or windmill to which you can attach the mill.

* * *

Food Influencing Color.—(J. L. H., Pasadena). Kindly give the "Cultivator" readers your experience in the matter of feed and care influencing color.

Let me briefly cite a couple of cases that will make my meaning clearer. Last year my neighbor and I each hatched a brood from the same mating of Brown Leghorns. His chicks were poorly fed and lousy and were literally full of white feathers, while mine were very uniform and showed no white in their plumage. Today I saw a brood of late hatched Rhode Island Reds that were extremely bad in color and in very poor condition. I have a brood, same mating and age, that are a third larger and much better in color than the other brood.

Answer. Food and care have the greatest influence on the color of fowls as well as on the egg production. Your comparison of your neighbor's Brown Leghorns and the mating of Rhode Island Reds would be proof enough of this. Canary breeders know this and practice giving canaries red pepper and————————besides iron to deepen the yellow. A friend of mine imported some exceedingly fine canaries from Europe and was surprised at receiving a large package of food with instructions to be sure to feed this at moulting time.

I personally have found that iron will impart a yellow tinge to white fowls if given at the moulting season, it will also intensify the yellow of the shanks and for colored fowls will deepen and brighten the coloring. White feathers in colored birds sometimes denotes a lack of protein in the food, and if those birds are given better care and properly balanced ration they may at the second moult come out all right. Intelligent care and properly balanced food will give always good results and prize winners such as you have whilst your neighbor with the same fowls will not win.

FALL CARE FOR LAYING HENS.

When poultry owners in California are complaining about the scarcity of eggs—that their hens will not lay—as they are doing in the Cultivator every week, the following suggestions from C. S. Green, in the Ranch may be read with interest.

To produce eggs in paying quantities during the winter months it is first necessary that the stock should be in proper condition not later than November 1. Old hens, as a rule, that molt late in the fall cannot be put in condition for laying until the last of January. We rely principally on the pullets hatched the spring previous for our early winter eggs. We may make one exception to this rule. Yearling hens that molt in August will generally be in condition to lay by December and make very profitable winter layers. They must be fed and cared for so as to hasten the molting if they are expected to molt early, as ordinarily a hen will not molt until September.

The process of hastening the molt consists of first reducing the feed so as to stop the production of eggs during the last week of July. When they have stopped laying and have been kept on about one-fourth of a ration for three weeks the feed is then increased gradually for a few days until a complete egg producing ration is fed liberally in quantity. At this time one pound of oil meal to each hundred hens or a small feed of sunflower seed every other day can be profitably fed. Hens and pullets should all be in winter quarters before cold or freezing weather. The temperature of the house should be kept above the freezing point, but should not be forced higher than forty degrees by keeping the house closed at the expense of ventilation.

The entire floor of the house should be covered with six inches of dry, clean straw, which must be changed as often as it becomes damp or soiled. All whole or cracked grain is scattered in this litter. The variety of grain must depend largely upon its availability and cost. A very good mixture would be one hundred pounds of each of whole wheat and cracked corn and fifty pounds of oats. This makes a very good scratching feed for winter. It can be fed to them all they can eat the first thing in the morning. Hens will always work for feed in the morning, as that is when they are most hungry. At 11 o'clock a mash can be given, but it should be very dry, not wet or sloppy. A great variety of mixtures have been used for this mash feed with very good success, and we do not pretend to know which is the best, but 100 pounds of cornmeal, 100 pounds of green cut bone and fifty pounds of peameal make a very good mixture, but hens are fond of it and should not be fed all they will eat.

One hundred pounds of ground oats, 100 pounds of ground barley, fifty pounds of wheat middlings and seventy-five pounds of green cut bone or beef scrap is another mixture that has given good results when fed very dry. A little hot water can be used in cold weather, but too much water will injure the effect of the food. This ground feed should be fed in V-shaped troughs about four and one-half inches deep. After they have eaten two-thirds as much as they will eat a very little of the scratching feed can be scattered on the floor to keep the fowls busy. After this is fed they should be supplied with all the green food they will eat. Mangel-wurtzels are the most palatable of any of the vegetables commonly used. Taking their cost and the ease of keeping them into consideration they will generally prove the most satisfactory of anything for green food in the winter.

Do you keep a mixed poultry yard? Keep the ducks, geese, and turkeys away from the little chicks or they will kill them.

CARE FOR HENS NOW.

The following article on care for hens now does not pertain in all respects to California conditions, and yet, if we remember that our summer—the three hottest, dryest months, when everything is brown unless irrigated, correspond to the winter conditions of the middle-belt, it will be seen that the suggestions herein made are full of good sense. Change the seasons around and work accordingly and your hens will lay.

The greatest success in winter is obtained when the fowls are properly managed in the fall.

When hens are taken off the range, and no longer secure a variety of feed they often cease producing eggs. Before winter begins the poultry man should aim to store a supply of food that will keep his hens in laying condition.

If the condition of summer could be created in winter, the hens would lay well at all times. What are those conditions? Exercise, green food and a variety. The hens not only have grain in summer but also worms, seeds and grass. It is impossible to find worms and green food in the winter, but there is something for the hen besides grain all the time. Grain is the best general food that can be given in the winter, but used exclusively it will not make hens lay.

During the fall, a few cabbages, turnips and refuse potatoes should be placed where they may be had conveniently for winter supply. The use of finely cut clover, scalded with a mess of chopped meat two or three times a week will afford a variety.

When the trees begin to drop their leaves rake up and store for scratching litter for hens in winter, also have a large supply of dirt put away. Take any flock of hens, give them warm quarters, feed other feeds with grain, keep them constantly at work under shelter and they will lay. It is idleness in winter that causes hen to become too fat, and leads them to become addicted to egg eating and feather-pulling.—Successful Farmer.

Never allow your poultry to go to roost hungry.

Scatter the evening feed near the roosting places.

Do not be too sure that your poultry have no lice, examine them and find out.

Will a lazy hen produce an egg that will hatch a vigorous chicken?

It is easier to digest soft food than hard grain and fattening fowls should be given their feed in this condition.

Scalded milk substituted for water will often prevent bowel trouble in young chicks.

A good poultry house saves feed. If you have none plan to build it before winter.

Clean eggs sell better than dirty ones. Soiled eggs are easily cleaned with vinegar diluted with water.

The use of oil on the hens to kill mites serves to accumulate dust and closes up the pores. An insect powder is much better.

The old hen keeps many a family that would otherwise have hard sledding. She is up early digging and scratching around for a living. Her home is usually uncomfortable and uninviting, yet she sings happy as a lark and works like she did not have to lay an egg every day.

Single Comb White Leghorn Cockerels For Sale
A1 Stock, Standard Bred. Address
A. H. BLAKELY - ONTARIO, CAL.

POULTRY FOR SALE
Hammond offers for sale his poultry and all the paraphernalia thereunto belonging.
100 or more beautiful S. C. White Leghorn hens and pullets, with a few cocks. Bred with great care through Howard's high-class prize-winners.
About 150 layers and soon to be, of assorted colors and kinds.
100 or more broilers and fryers.
A grand opportunity for a party to secure stock and complete outfit for a 300 to 500 Poultry Plant. Health condition compels this sale. If not sold as a whole very soon, it will be broken up to suit buyers.
Ranch: E. Palm Ave., Monrovia T. D. Hammond

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.50 and $3.00, per 14 Exhibition and utility stock for sale 132 Ave 32, Los Angeles, Cal.

BARRED ROCKS, WHITE MINORCAS, INDIAN RUNNER DUCKS AND WHITE HOLLAND TURKEYS
Prize winning birds at Central California Fair, where 7 firsts were won in '05.
JOE McDONALD, R. F. D. 2, HANFORD, CAL.

LINDGREN BROS. KINGSBURG, CALIFORNIA McPHERSON, KANSAS
BUFF LEGHORNS BARRED ROCKS
Prizewinners at Chicago, St. Louis, San Francisco and majority of prizes at Portland on Buffs. Choice Cockerels and Pullets for sale.

RHODE ISLAND REDS
Fine large stock, heavy layers, best of broilers. Eggs, $1.50 per setting.
J. D. Setzer, Norhrup and Pedro Sts., San Jose, Cal.

Breeding Cockerels
WHITE LEGHORN BLACK MINORCA
One hundred. Good Stock. A few pens of choice stock for sale. Write for prices
Avenue Poultry Yards Ventura, Cal.

S.C. RHODE ISLAND REDS, WHITE ROCKS, BUFF and BROWN LEGHORNS
High grade young stock for sale. Closing out our Brown Leghorns at bargain prices. No Sunday business.
LAKE AVENUE POULTRY YARDS
757 North Lake Avenue - Pasadena Cal.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the Last Los Angeles Show Our Birds Won Twelve Prizes.
Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks
Duck Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Ducklings 10 days old, 25c each. Ready now.

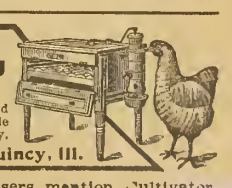
SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

$12.80 For 200 Egg INCUBATOR
Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
GEO. H. STAHL, Quincy, Ill.


When writing advertisers mention Cultivator.

General Agricultural Notes

RAISING DRUG PLANTS IN CALIFORNIA.

By Prof. Albert Schneider.

The United States pays an annual bill of many millions of dollars for vegetable drugs which could be profitably grown at home. Many of our native drugs which were at one time very abundant are becoming more and more scarce, as for example golden seal (Hydrastis Canadensis) and senega (Polygale Senega). Extensive and reckless gathering is causing the Californian to consider the advisability of establishing extensive cascara plantations to meet the ever growing demand for this most valuable remedy. Efforts are now being made to introduce cinchonas (Peruvian Bark) into California. If successful this alone will be a saving of many millions of dollars annually besides giving profitable employment to many thousands.

Numerous plants having medicinal and other economic value have been grown with remarkable success in California, as insect flowers, canaigre, hops, tan oak, calendula, lavendula, inclusive of the so-called pot herbs and garden plants, as celery, asparagus, water cress, lettuce, sage, thyme, mint, to say nothing of oranges, lemons, limes, olives, St. John's bread, almonds, dates, etc., etc. In addition to these there are the plants of more decided medicinal value for which there is a constant demand, which could be grown very successfully and profitably. Only a few of these are here given.

Digitalis (foxglove) (Digitalis purpurea) is easily cultivated and the market is reliable. At present most of the digitalis leaves are imported from England. Several acres should be planted. The leaves of the second year's growth only are used, collected at the time of flowering. It is poisonous, a very valuable heat tonic and vascular diuretic. The seeds also are used. Retail price of good, carefully dried leaves, ranges from 20 to 35 cents per pound.

Monkshood (Aconitum Napellus). This is as readily grown as digitalis and may be similarly cultivated. It is a most valuable fever remedy and diapharetic. The demand is constant. The roots are used and bring from 20 to 25 cents per pound retail. The following drugs could be readily cultivated (with citation of retail price per pound):

Dog grass (Agropyron repens), 10 to 25 cents; Calendula, 35 to 45 cents; Chamomille, 15 to 20 cents; Lavender, 10 to 30 cents; red rose (French), 90 cents to $1; American Saffron, $1.40; Grindelia robusta, 16 to 20 cents; hoarhound, 20 to 25 cents; peppermint, 25 to 30 cents; pots herbs generally with prices ranging from 15 to 30 cents per pound; yerba santa, 20 to 25 cents; damiana, 20 cents; henbane, $1.25 to $1.50; stramonium, 12 to 20 cents; licorice, 10 to 20 cents; burdock, 10 to 20 cents; besides these there are many so-called weeds of medicinal value too numerous to mention. Attempts will be made to cultivate Golden seal ($1.50 to $1.60 per pound); rhubarb does well (40 to 90 cents); valerian could be grown readily (40 cents), etc.

The wholesale price is of course less than the retail. There is no doubt whatever that vegetable drugs can be grown successfully and profitably. All that is required is intelligent effort on a large scale. What is done profitably in other temperate and subtropical countries can be done profitably in California.

Medicinal plants are being tested in the San Francisco Garden of Medicinal Plants with regard to their medicinal value and suitableness for culture in California.

Those desiring more detailed information on the subject of drug culture are advised to obtain copies of the April and May (1905) numbers of the San Francisco Pacific Druggist.

SPRAYING POTATOES FOR THE PREVENTION OF BLIGHT.

A report given on comparative tests on different plats of potatoes sprayed with Bordeaux mixture and Bug Death. Bordeaux mixture and Paris green, soda Bordeaux and Paris green, and the insecticides used separately, comes from a Canadian experiment farm.

Five applications were given the vines, beginning July 2 and continuing at intervals of about ten days. The potatoes were dug October 6, and the yields, increase in crop, and cost of spraying are shown in tabular form. It appears that the Bordeaux-Bug Death mixture gave the greatest increase, the net increase in value amounting to $21.86 per acre. This was followed by ordinary Bordeaux mixture and Paris green, which gave a net increase of $17.68 per acre. The exact cost of application is not given, the expense of applying the fungicides to small plats being relatively much greater than had larger tracts been used.

The cost of applying the Bordeaux-Bug Death mixture was greater than where Bordeaux mixture or Paris green was employed, so that the difference in net gain between the two is less than indicated above. The greater efficiency of the Bordeaux-Bug Death mixture is attributed to its more adhesive quality.

A GREAT PLANT CENTER.

The Chico Daily Record, of Nov. 4, has the following to say regarding the establishment and growth of the well-known Chico Nursery Co:

"In the diversity of his undertakings General Bidwell was a propagator of orchard trees, and as early as 1851 established the Rancho Chico Nurseries, whence came practically all the older orchards of the state; many of them still in bearing, proving the longevity and hardiness of Chico-grown trees.

The conditions which led to the selection of Chico as the one spot in the United States to grow the thousands of diversified plant varieties commended it as a place peculiarly adapted to the needs of a modern nursery and it is not impossible that the showing made here in nursery rows had its effect upon the Government experts in their final decision as to the location of the Gardens; certain it is that the proximity of the two gives the Chico Nursery an enviable position in the eyes of the horticultural world.

With well-chosen distributing points Chico-grown trees, in carload lots, are being delivered, freight paid, over a thousand miles from Mt. Shasta. Results speak volumes in the shape of increased business. Thus does California, and particularly the Sacramento Valley, seize upon the possibilities at her door.

With twenty-five to fifty up-to-date salesmen in the field the year around, this energetic concern has pushed out into the several surrounding states. The long season and rapid growth, together with the thorough ripening and maturity of the wood (with proper men to set forth these advantages) are making Chico-grown trees immensely popular in the north.

PHENOMENAL GROWTH.

E. E. Pellett of Brawley has a willow tree on his place that measures fourteen inches in diameter and forty-five inches in circumference four inches above the ground, and is of a good height. As there was no water on the townsite three years ago, this tree, which grew from the seed, has attained this size in less than that time.

San Luis Obispo County Lands. Best and Cheapest in the State. Rainfall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

Ranch for Sale

To close an estate, we offer 33 acres near Compton, for sale. Choice Alfalfa land. Best artesian well in that section. Water to sell. Address

Phone Main 922 C. F. LEE, Pasadena, Cal.

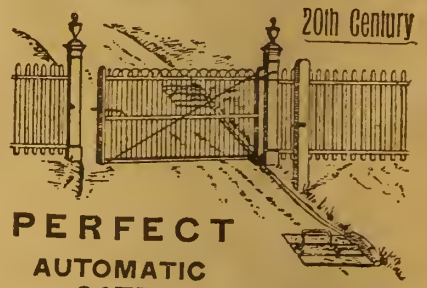
"GOPHER DEATH"
Kills Gophers, Squirrels, rodents 1500 tablets in box. 1 tablet kills a gopher, Price $1.25.
"RATICIDE"
Kills Rats and Mice. Price 25c. Ask your druggist for either, or send price, and we will forward free of charge. Send for sample or circular. FORT DODGE CHEMICAL COMPANY, 303 California Street, San Francisco

WOODMANSE
BEST MILL ON EARTH
On account of its removable bearings will pump more water than any mill on earth.
F. H OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

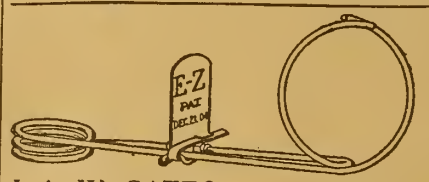
THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

Stump and Tree Pullers
Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1½ minutes. 1 to 5 acres at a setting. Different sizes to suit all kinds of clearings. For illustrated catalog address
Powerful, Handy, Low Priced.

Milne Mfg. Co. 977 Ninth St., Monmouth, Ill.



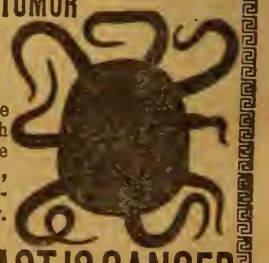
20th Century
PERFECT AUTOMATIC GATE.
20 STYLES.
Money Refunded If not satisfactory or as represented. Works 365 days each year. NO OILING—ten minutes each year and 10 to 20 cents expense—no more.
Enclose 3c stamp for 68 page catalogue.
The Lloyd Co., Inc.
Petaluma, California



Ask Your Dealer for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

For Anything in the Plow Line ask us about the
SYRACUSE CHILLED PLOW CO.'S GOODS
Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the
FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.
Have you seen the "New Harrison Wagon?"
L. A. MARTIN & SON
141-147 Wilmington St. Los Angeles, Cal.

I WILL GIVE $1000
IF I FAIL TO CURE ANY CANCER OR TUMOR
I treat before it Poisons Deep Glands or Attaches to Bone.
NO KNIFE OR PAIN, NO PAY UNTIL CURED.
NO X-RAY OR OTHER SWINDLE.
A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. 3000 CANCERS cured on people you can see and talk with. ANY TUMOR, LUMP OR SORE on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.



ANY LUMP IN WOMAN'S BREAST IS CANCER
It does not pain until almost past cure, and if neglected it ALWAYS poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK, sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.
DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]
23 AND 25 THIRD ST., NEAR MARKET ST., SAN FRANCISCO.
PLEASE SEND THIS TO SOME ONE WITH CANCER.

Queries and Suggestions

SOIL INOCULATION.

Editor Cultivator: I have seen articles in your paper about inoculating the ground. I would like to ask how the ground is inoculated when potatoes are planted, and also if the ground is treated in the same way for beans, peas and other vegetables?—A. E. P., Anaheim.

Soils are inoculated in various ways and with reference to the particular crop you are planting. It would avail nothing to inoculate for potatoes as the bacteria works only on leguminous or pod-bearing plants such as beans, peas, clover and alfalfa and the same bacteria does not work on all leguminous crops; it is necessary to obtain that which acts upon your particular crop. For instance, did you have a new white clover lawn which was looking poorly though good care was given, you should go to an old clover lawn that looked vigorous, get some of the soil from about the roots of the plants, put same in a pail of water and pour the water over the lawn, distributing it as evenly as possible. The chances would be good for immediate improvement. Field peas, alfalfa and other field crops are inoculated at time of sowing, by soaking the seed in water in which the bacteria cultures have been placed. These cultures may be purchased at seed stores in all large cities.

Inoculation is not always beneficial and adds only to the fertility of soils low in nitrogen and must not be understood as saving the grower any labor, for the same amount of care is necessary as under the old conditions. Experiments have been carried on at a Government farm in Canada with cultures prepared in Germany as well as those obtained from the Department of Agriculture at Washington and their report states that as a result of observations the necessity for inoculation is not as great as was once thought to be the case . In the Province of Ontario, at least, the failures to obtain a good catch of clover have been due to a deficiency of moisture, unsuitable mechanical condition of the soil, or insufficient drainage rather than to a lack of nitrogen-assimilating organisms.

A similar condition was found to prevail in British Columbia, and the conclusion is that the severity of the winter, lack of moisture, uncongenial conditions of soil, or poor seed will be found to militate more against successful clover growing than any supposed lack of tubercle bacteria.

BUDDING LOQUATS.

Editor Cultivator: About Loquats, the seedless variety. In regard to size, are they larger than the old varieties? And are they as rich in flavor? and are they as easily grown? and can they be budded on to trees of the old variety? or do you graft instead of bud? and where could the grafts or buds be had? the variety guaranteed. —A. G., San Bernardino.

Budded loquats are superior in every way to seedlings. The fruits are larger, better fleshed, better flavored and as easily grown. They are budded, not grafted and are for sale by nearly all nurserymen. There are several named varieties, which vary in size, flavor, flesh, ect. These have several times been described in the Cultivator and a note regarding them appears on the cover page of this issue.

RAISINS SEEDS FOR FEED.

Editor Cultivator: Will you kindly give us your opinion of ground raisin seed as a food for dairy cows. It is being offered for sale here, and recommended as being equal to or superior to linseed meal.—S. R., Whittier.

Practical dairymen who have fed raisins seeds do so in the proportion of one-fourth to three-fourths bran. It is so much cheaper than linseed meal that it is used to some extent. Used in connection with a balanced ration it brings good results. It is a very rich, strong feed and must be used with care.

PINEAPPLES.

Editor Cultivator: In regard to pineapples. How much frost they will stand, and what you think of them in the Coachella valley, and where I can get plants.—C. J. B., Thermal.

Pineapples have never yet proved a commercial success in California. Whether they can be successfully grown remains to be demonstrated. Large quantities of young plants are sold from Los Angeles and vicinity, but few, if any, fruits have been marketed. Pineapples will not stand frost and in fact need a climate where the temperature never drops very close to the frost line.

DROUTH-RESISITANT CEREALS.

Editor Cultivator: Seeing in your issue of October 27th an article by Dr. Fairchild, in charge of the work of introduction of new seeds and plants and that he has macaroni wheat, barley or oats which are imported from Algeria, Turkestan and other dry countries ,to be used in our desert, I know of no place other than this valley where a good test could be made of it. I am willing to test some this season, providing I can get the seed. Please direct me how and where to get it.—H J. L., Rosamond.

Write Department of Agriculture, (Bureau of Plant Industry), Washington, D. C.

RASPBERRIES.

Editor Cultivator: Please inform me through the Cultivator which kind of raspberries does best in this part of the country. The yellow or the black cap.

Is there any market for Belgian hares in Los Angeles?—W. O. B.

Yellow raspberries are not generally grown and the red (Cuthbert) is the most popular.

Belgian hares are nearly "a thing of the past" in Los Angeles, though a few are found in the markets.

SILO CAPACITY.

Editor Cultivator: I wish to know the capacity, in tons, of a silo 30 feet deep and 16 feet in diameter.—J. L. P., Santa Ana.

Your silo will hold 119.4 tons.

DOING GOOD WORK.

The Tulare Grange seems to be a live farmers' club. It takes up-to-date subjects for discussion and its conclusions are pertinent and sound.

At its last meeting, for instance, it took up the following points of interest to all farmers in California, viz.: A better system of agricultural education in every department of operative science; a more equitable division of taxes; amended legislation to encourage and provide for better co-operative methods for farmers; legislation which will provide for a more equitable, just and economical distribution of the waters of the State, now so essential to intensive and successful agriculture; legislation which will provide co-operative or State insurance against fire and against the exactions of unscrupulous fire insurance combinations.

Under the head of the "Grange" Mr. John Touhy of Tulare makes the statement which every well advised man will endorse:

"The Order having, as it has, National, State, county and township membership for the purpose of carrying out definite principles and interests, as they arise, can do, and is doing, more than is possible for any local club or organization to do; that for these reasons farmers need the Order of Patrons of Husbandry and the Order needs every former in the State, in its ranks. It was agreed that the time is now opportune for extending the Order in this State, and a committee of three was appointed who drew up and reported resolutions to the officers of the State Grange, urging that efforts shoud be made, now, to increase the membership of the Order in California."

BOYLIKE.

The late Mrs. Mary Mapes Dodge visited a St. Louis family some years ago.

There was in the family a little boy with an inordinately sweet tooth.

"Mrs. Dodge," said the boy's mother one day, "do you think it is right for Bobby to eat so much bread and jam?"

"It doesn't hurt," the visitor answered.

"But all that jam?" complained the mother, anxiously.

"Oh," said Mrs. Dodge, with a grim smile, "he doesn't eat it. He leaves it on the doorknobs."

PROSPECTOR'S EXCURSIONS

from LOS ANGELES to

NIPPENO,	round trip,	$20.00
GOOD SPRINGS	"	20.95
LAS VEGAS	" "	23.60
MOAPA	" "	27.55
CALIENTE	" "	33.45

VIA THE

Salt Lake Route

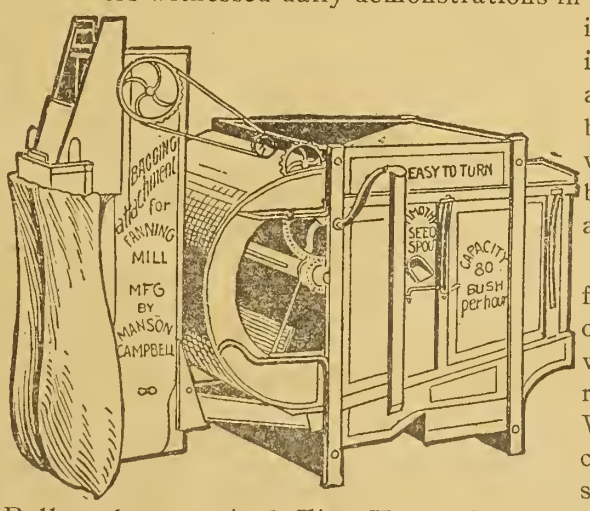
These tickets will be sold daily, commencing Nov. 1st., with a return limit of 30 days. Mining literature gladly furnished free. Los Angeles City Office, 250 South Spring St

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

The "Famous" Chatham

Fanning Mill with Sacker Attached was awarded the GOLD MEDAL at the Lewis & Clark Exposition, where thousands of farmers witnessed daily demonstrations in cleaning, grading and separating grains, such as wheat, oats, barley, rye, vetch, millet, beans, peas and clover seeds



Thirty days' free trial, price of machine within the reach of all. With each machine is sixteen screens, Power Pulley when required, Five Years' Guarantee, and freight charges paid.

Write now for our new catalogue, "How to Make Dollars Out of Wind," sent free.

Geo. W. Foott, 325 E. Morrison St., Portland, Oregon

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

ONCE IN A WHILE.

Once in a while the sun shines out,
And the arching skies are a perfect blue;
Once in a while 'mid clouds of doubt
Hope's brightest stars come peeping through.
Our paths lead down by the meadows fair,
Where the sweetest blossoms nod and smile,
And we lay aside our cross of care,
Once in a while.

Once in a while within our own
We clasp the hand of a steadfast friend;
Once in a while we hear a tone
Of love with the heart's own voice to blend;
And the dearest of all our dreams come true,
And on life's way is a golden mile,
Each thirsting flower is kissed with dew
Once in a while.

Once in a while in the desert sand
We find a spot of the fairest green;
Once in a while from where we stand
The hills of paradise are seen;
And a perfect joy in our hearts we hold,
A joy that the world cannot defile;
We trade earth's dross for the purest gold,
Once in a while.

—Nixon Waterman in Boston Beacon.

How the Old Man Celebrated

Roseville was asleep in the dullness of Sunday afternoon. In Mrs. Maloney's sitting room there was the odor of strong tea, and that meant that Mrs. Burns and Mrs. Ryan had stayed over after mass for dinner and were having a friendly cup of tea before they started homeward with their husbands. The men themselves were hanging about the village somewhere. There had been silence for some minutes—a heavy, thoughful silence—after Mrs. Maloney's last remark. The good women were relatives, cousins in the first degree, and Mrs. Maloney had been talking of their maternal uncle.

"It's a perfect shame," she had said. "Uncle Martin has a good deal of money saved up, I am sure. He won't spend it himself and he won't give anybody else a chance at it, and like as not, when he dies, he'll leave it to Father Shanahan for something or other that he happens to take into his head. Martin's getting dreadful pious in his old days, since he's been living alone in the little house."

"He hasn't it in any bank in Fairbrooke," said Mrs. Ryan, "because Pat has asked."

"Like as not," Mrs. Burns said, "he has hid it in the house somewhere. He's that queer about it, you never can tell. He's always wishing he had money enough for a trip to Chicago. But the Lord knows that it is he that could go if he wanted to. Not a chick nor a child to hold him."

Mrs. Maloney looked thoughtfully at the speaker. "I saw him get in with the McGoverns after mass. He was going out to the farm to dinner with them. We might walk over to the house, and if he's in, give him a little visit. If he isn't——"

"The key is under the doormat," said Mrs. Burns.

And over to Uncle Martin's the good ladies went. He was not at home, and the key was under the mat. The house, though generally clean, had the air of being managed by a man, which women see at once. The pipe was laid away with the cups and saucers and a pair of shoes stood prominently on one of the chairs. But none of them had any eyes for these incongruities today.

"How much," said Mrs. Maloney, "do you think he might have?" as she drew out a drawer of the old bureau and began going through it.

"A thousand or so," said Mrs. Burns, from the depth of an old rag bag.

"I don't believe it's that much," said Mrs. Ryan, as she went through the old cans and jugs stored in the closet.

They were so busy that they did not hear a step outside, just as the three of them had concluded to look through the corn shucks in the tick.

But all their digging brought forth nothing but a few cents laid away for ready change, less than a dollar altogether.

Red in the face with hurry, and a little bit ashamed, too, they put things back as best they could.

"I wonder where he has it, anyway."

"Do you suppose it is that he really hasn't any, as he says? said Mrs. Burns.

"Pshaw!" said Mrs. Maloney, skeptically.

The next morning, however, Mrs. Maloney was to have more exact knowledge as to the amount of Uncle Martin's money. Her husband, who was the village constable, along with being the biggest storekeeper, came in to her excitedly.

"Uncle Martin was just in the store, and he says somebody has stolen his money. He says there were signs of somebody being in his place when he came home yesterday evening, and he thinks he can find out who it was."

Mrs. Maloney was skimming the soup, and she almost dropped the ladle. After a few moments she managed to control herself enough to ask:

"How much does he say he had?"

"One hundred and fifty dollars. I would have thought that he would have had more." But Mrs. Maloney made no protest. She was suddenly thankful that the old man was satisfied with that.

"And then, think," went on her husband, "of the shame of the town. There hasn't been anybody in the jail for more than five years—not since—"

Mrs. Maloney interrupted him: "What's Uncle Martin going to do about it?"

"He's gone off to see if he can get some evidence. He has a suspicion who it is; he's going to be gone until this evening, and then he's to let me know. He's——"

A summons from the store came just then, and Mrs. Maloney was, fortunately, left alone.

"He must have seen us," she moaned, as she dropped into a chair.

After dinner she went out and hitched Jenny to the road cart, telling her husband that she was going for a little drive. Once out of sight, however, she made Jenny fly.

There were tears and gnashing of teeth in the Burns and the Ryan households, but in the end the butter money was produced, and, added to what Mrs. Maloney had saved by odd dressmaking jobs in the village, the guilty woman managed to get the $150 together.

Toward six o'clock Mrs. Maloney slipped into Martin's little house and put the money into the tick. The next morning early, when the Maloney's were at their breakfast, Uncle Martin appeared, chuckling. It was in the straw tick," he reported, truthfully enough. "Moved about a little. I guess I've made up my mind to take that trip to Chicago. I am so glad after my scare, that I feel like celebrating. And you never can tell what may happen," he went on chuckling anew, and looking at his niece.

"That's right, that's right," said her husband. "You might as well have the good of it yourself. You worked hard enough for it."

Mrs. Maloney choked and set down the cup of coffee she was drinking, and rose hastily from the table. Uncle Martin looked on sympathetically.

But the chagrined and angry woman had one consolation. She knew that there were two others no less uncomfortable than she to find the old man going merrily to Chicago on their hard earned money.

Alas, curiosity is the ancient sin of woman, and it seems to take many lessons to break her of it.—New York News.

FROM A HAPPY HOME.

I've heard so much of the bad husband and the indifferent husband, let me tell of the good husband, for that is the kind I have. Just here let me state that he is not faultless, O, No! but he is one of the best husbands on earth. To begin, he loves me! How do I know? By the way he treats me, and, he does not forget to tell me so. It's 20 years and more since we stood at the altar and vowed "for better, for worse, for richer, for poorer" and today he is more the lover than then. He does not consider it anything to be ashamed of to kiss me, or to place his arm lovingly around me and say, "Bess dear, I love you." Naturally he is very quick tempered, and so am I, but before we vowed to love each other till death do us part, we talked the things over, and decided that neither of us were perfect but that we would strive to so live that we would overcome our failings and we neither one felt then or now feel it a lessening of our dignity or a weakening of our love to beg pardon if we have been wrong; and as the years glide by, the necessity of begging absolution for hasty words is growing beautifully less. I have frequently heard my husband say: "Bess never says anything when she gets mad. She whistles or sings." Dear sisters, isn't that better than "saying things" that hurts your own self-respect, and also your dear ones' love and respect? For just as surely as two and two are four, so does "constant dropping wear away a stone." And no husband can love a wife he does not respect. Never forget that, dear young sisters who have just become wives, or are contemplating it. Respect is the fundamental

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
559 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

Widen
The Circle

There is no better way for the farmer to widen the circle of his influence than to join with his neighbors in building a telephone line. It extends the neighborhood circle and enables each one to receive advantages that cannot be had in any other way. The cost is meager compared with the benefits of a good telephone line, and progressive farmers, who are awake to their own interests, are building many such lines.

Stromberg-Carlson
Telephones

are used on nearly all farmers' lines because they have been found to be the most suitable telephones for that purpose. It don't pay to experiment when you can get Stromberg-Carlson Telephones and be sure of good service. Start off with the best and your line will always work satisfactorily. You will also avoid the expense of changing instruments in a few months. Book 71-I, "How the Telephone Helps the Farmer," tells how to organize, build, and operate a farmer's line. It's free, and every farmer should have a copy.

Address Nearest Office

Write For Book Today

STROMBERG-CARLSON TELEPHONE MFG. CO.
ROCHESTER, N. Y. CHICAGO, ILL.

of love, and if you do not respect yourself, be sure others will not respect you. I do not mean that a wife should blindly submit to anything and everything because the husband says so. No! But, if no principle is involved, better submit then wrangle. But if it is a principle, set your colors and "stand by."

My husband does not feel it beneath his dignity as a man, a "Lord of Creation," to occasionally sweep the floor, help with the dishes, or wash and dress the baby. He has frequently washed the most dirty clothes on a washboard at that, for I do not have a machine. He always wants me to go with him when he has to go anywhere, and I nearly always do, for the work will wait, and be right here when I get back to it. And he says he married for a companion not merely a housekeeper, and would rather have a jolly, happy wife than all the pies, cakes and fancy cooking on earth. And it is a "heap sight" easier to be jolly, at least for me.

When we get hard pushed with out of door work, I gaily don an old dress (I have never tried overalls, but I may) and sally forth to drive team and help. Listen, O Ye sisters who think one can't do work outside and still be gentle and womanly. I have done a little of all kinds of outdoor labor, from breaking a "broncho" to turning the grindstone at the "round-up." I can, if necessary, cut out and brand, rope and throw with any of the men. I can run a mower, and what is harder, keep it in good running order; can break prairie sod, plow, cultivate and gather corn—in fact, do nearly any kind of out-door work, and yet I am called a good cook a good housekeeper, a fair musician and singer, am a first class dressmaker, a good milliner, in short can do most any kind of work even to taking care of and training children. One of the finest compliments I ever received was from a little neighbor boy to whom I had given a kitten I had reared and trained. Some time afterward he said to his mother, "Well, mamma, Mrs.————knows how to raise cats as well as kids to mind without howling." One of my pet ideas is to rear children to obey, and not to cry—to be what you want them to be, not what they can be without training. If the sisters desire me to I will come again and give my ideas on child bearing and training. Also, if further ideas are wanted on husband and wife training. I can see some noses and heads going up in the air. "Humph! husband and wife training indeed! I guess we know enough without any old hen telling us. We are grown." No, no, dear ones we are all little children, and must continue to grow till we reach the fullness of the stature of Christ Jesus, else we would be only little children, forever to be led, and never to lead. It takes more than four walls to make a home, and it takes more than a being in trousers or dress to be the ideal husband or wife, the proper material for parents, and a child has a right to be well born. If I escape entire annihilation this time I may return.—Bess.

A fever patient can be made cool and comfortable by frequent sponging off with soda water.

Warm borax water will remove dandruff.

HOW TO CLEAN RIBBONS.

Never throw away a ribbon until it is worn and threadbare. I use the same ribbons year after year and they always look fresh and new for a long time. First take a soiled ribbon and after wetting it in cold water put it in a basin of soapy, hot water and let it stand. When the water has cooled to about blood heat, take a table—marble topped, if you have it, if not, spread a clean cloth upon table and upon it stretch the ribbon, having it perfectly smooth. Then take a whisk broom or brush and clean the ribbon brushing it with the grain but never squeezing or crumpling the ribbon. After turning it and brushing it well, using plenty of water until all dirt is removed, then take clean, cold water and brush it well with that. Then take the ribbon and put it in clean water, lifting it upand down but never squeezing it. It is necessary to rinse through several waters or the ribbon will be stiff and not soft like new ribbon. Lift the ribbon from one water to another then stretch upon a clean cloth and place in sun to dry. When nearly dry, place even and smooth between a cloth and iron dry.—Mrs. Lulu G. Powers, Mobile Co., Ala.

A HINT ON SWEEPING.

Fine dust raised in sweeping is most unpleasant. When sweeping have a pail half full of very warm water in which put a little ammonia. Before beginning dip the broom in this, shaking as dry as possible. When broom becomes filled with dust dip and shake as before. The damp broom holds the dust which would otherwise fill the air. By changing the water often no injury will come to the finest rug or carpet. Ammonia brightens colors and they look much cleaner than when swept in the old way. The labor of dusting is greatly lessened, and germs are disposed of.

When grip and colds were prevalent in the neighborhood, not one of my family suffered from either. It is worth trying.—Successful Farming.

FACTS WORTH KNOWING.

Hot lemonade will relieve a cold or cough.

The skin of a very fresh egg will relieve sea sickness. From one to three will be sufficient.

Dish cloths should be boiled in borax water at least twice each week to keep them perfectly sanitary.

A tablespoonful of borax is an agreeable addition to the dishwater and helps to keep the hands soft, instead of irritating them as soda does.—Press.

Ostrich plumes that have become soiled or faded may be cleaned and made new for trimming this winter's hat provided one knows how. Make a bowl of clean suds with soft water and ivory soap and soak the feather 15 minutes. Then strip it between the thumb and finger till clean. Rinse and dry before a slow fire or in bright sunshine, and while drying keep the feather continually moving or shaking; that is what makes it curly and fluffy.

Kerosene when used as a cleaning agent is a great help to the housekeeper. It is excellent for cleaning windows and mirrows when they are not very badly soiled. Put a few spoonfuls in a pail of water and wash the glass with a soft cloth dipped in it. Use no soap with kerosene.

Bath tubs, iron sinks, zinc covered tables and zinc under the stove are readily cleaned by rubbing them with a cloth dipped in kerosene until the dirt is loosened and then washing it off with strong pearline suds.

GIVE OTHERS YOUR SUGGESTIONS.

The household department of the Cultivator is especially the property of the wives and daughters of the Cultivator. As such it is their medium of communication. Its columns are open to them for the expression of their opinion on all subjects relating to the home.

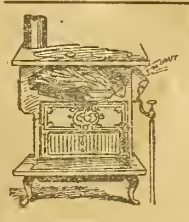
We shall be glad to receive communications, letters of suggestion queries, and every other good thought that may tend to encourage the woman toiler on the farm. Do not be timid about writing, send in your suggestions and we will see that they appear all right.

TO CLEAN FELT HAT.

Editor Cultivator: Can you please tell me what I can clean my last winters white felt hat with. It is just dusty and discolored slightly from wear but as yet I have been unable to find anything that will clean it.—P., Santa Rosa.

Sprinkle powdered French chalk well over the hat and brush thoroughly with fine brush. Repeat the operation until the dust is removed. If you have been using any liquid on the hat it is probably past help.

The largest and most comprehensive natures are generally the most cheerful, the most loving, the most hopeful, the most trustful.



BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

M&B THE QUALITY STORE

FALL SUITS AND OVERCOATS

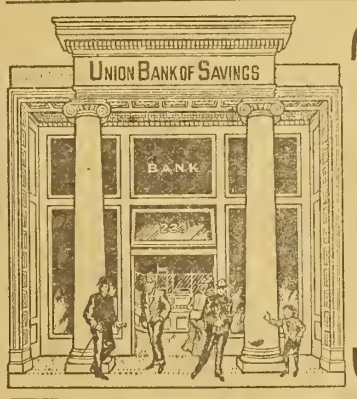
$15.00 TO $45.00

The guaranteed kind, and backed by the famous "M & B" label. Largest Dealers in Men's and Boys' Furnishing Goods and Hats.

Mail Order Department

MULLET & BLUETT CLOTHING CO.

First and Spring Sts. Los Angeles, Cal.



Union Bank of Savings

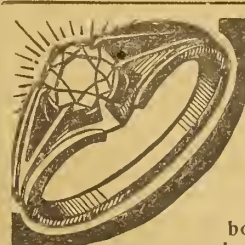
RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits 4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.



The Advantage in Buying Diamonds of Us.

We buy Diamonds direct from the cutters and purchase only Blue White and Extra White Perfect Diamonds. We are now selling from a reserve stock bought for investment several years ago. Although the price of Diamonds has advanced considerably we are enabled to sell these fine Diamonds to-day at prices then prevailing.

Send for our handsome illustrated Fall and Christmas Catalog No. 21. It is Free.

We ship on approval and pay all charges whether you buy or not. We rely on the high quality of our goods to merit and win your trade.

BROCK AND FEAGANS

Jewelers LOS ANGELES, CAL. Importers

Oh! What A Difference

IN THE MORNING

Especially wash day morning when you use a

WHITE LILY WASHER

JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

VINEYARDS FROM CUTTINGS.

(Continued from First Page.)

successful as this but I am thoroughly convinced that this is at least one of the right ways.

A cutting placed in vineyard row and allowed to grow undisturbed usually forms a better root system than it will do if transplanted from the nursery. I once had occasion to dig up several hundred vines of each after growing in the vineyard two years and found this to be almost invariably the case.

Ostrich Plumes MADE OVER

We clean, r dye, make over and curl boas, tips, plumes, e c., and add new top leather to plume s when necessary. Send your work at once or wri e for prices. Satisfaction guaranteed.

CAWSTON OSTRI H F-RM AND FACTORY
P. O. Box 1072, Sou h Pasadena, California

A Sharp Razor
Makes Shaving Easy

I is a pleasure to shave when your razor is sharp. With "Every Man's Dry Hone" you can give your razor a keen cutting e ge with a few strokes. It is a perfect h ne, made for home use, and gu ranteed to g i v e satisfaction. No water or oil necessary—self-lubrica ng. Always ready. Mailed on receipt of $1.00. Send in your order now, while you are think ng about it. Be ready for your next shave.

REDLANDS HONE CO. 70 Orange St., Redlands, Cal.

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

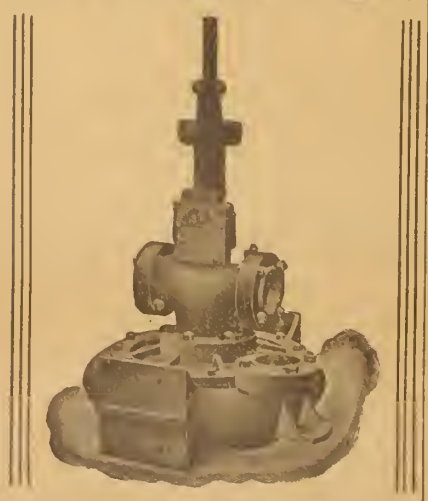
SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.

PUMPS!



Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equal y as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS
411 Market St. *San Francisco, Cal.*

Los Angeles Markets.

Los Angeles, November 16, 1905.

Butter.

Valley Creamery is down a point.

B. of T. Creamery, per roll 67½
Valley Creamery, fancy .....62@65½
Coast Creamery ....55@57½
Fancy Dairy ....50@52½
Cooking 28

Cheese.

Cheese is firm at one cent advance.

Cal. 3-lb hand 19
Cal. Young America 18
California Anchor 17
Northern ....13@13½
Eastern ....16@17
Domestic Swiss 16½
Imported do 28

Eggs.

Eggs have again advanced.

Eggs, Fresh Ranch ....43@44
Eastern and Storage ....28@35
Seconds 23

Poultry.

Fryers, 2½ lbs 16
Broilers, under 2 lbs, per lb ...16@18
Young Roosters, per lb 15
Hens, per lb 14
Ducks, per lb 12
Geese 12
Turkeys 20

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt 5.75
Prime Steers, cwt 3.50
Cows, cwt..... .....2.85
Calves, cwt 4.50
Sheep, ewes, per head 4.00
Lambs, do 3.25
Wethers, per head 4.50

Potatoes.

Northern, per sack ....$1.30@1.35
Locals, per cwt 75
Sweets, white, per cwt .....90@1.00
Sweets, yellow ....1.00@1.40

Vegetables.

Onions, Silver Skins, sks $1.40
Onions, yellow, per cental 1.30
Beets, per 100 lbs 75
Cabbage, per sack 50
Cauliflower, per doz. 30
Bell Peppers ....4@5
Wax Beans 5
Cucumbers, per box ....50@65
String Beans ....3@3½
Green Onions, doz bunches ....20@25
Carrots, doz. bunches 30
Turnips, doz. bunches .....25@35
Garlic ....6@8
Celery, dozen ....25@35
Peas, per lb ....3@3½
Egg Plant ....4@4½
Chili Peppers, green ....2@2½
Chili Peppers, dry ....15@20
Tomatoes, local ....15@25
Parsley, per doz. bunches 30
Summer Squash, bx 20 lbs ...25@35
Green Corn, per sack ....75@1.25
Lima Beans ....4½@5
Rhubarb 2½

Citrus Fruits.

Valencias ....$4@4.50
Lemons, standard ....1.50@2.00
Lemons, fancy ....3.50@4.50
Grapefruit ....2.50@3
New Navels ....3@4.50

Fresh Fruits.

Apples, Bellefleur .....85@$1.10
Fall Pippins ....1@1.25
Apples, 4½-tier Rhode Is. Grn 90@1.10
Apples, Red Pearmain 1.15
Apples, Gravensteins ....90@1.10
Strawberries ....10@15
Pomegranates, per crate .....40@50
Peaches, per box ....75@1.25
Plums ....90@1.25
Figs, per box ....50@75
Black Figs ....50@75
Muscats ....90@1.75
Tokays ....1.25@1.35
Cornichons, lb ....5@6
Quinces, per box 1.50
Pears, Winter Nellis, per lb 3
Muskmelons, large crates ..2.00@2.50
Watermelons, doz ....35@1.75
Guavas, per basket ....5@6

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 12½; fy, 10½; ch,

Peaches, fy, 10; ch, 8.

Prunes on a 3c@3½c basis for the four sizes in bags f. o. b.

Loose Muscatel Raisins, 2-crown, 4½c; 3-crown, 5c; 4-crown, 6c.

Beans, Dried.

Limas 5.50
Pinks, fancy ....2.90@3.00
Lady Washington 3.00
Large Whites ....3.00@3.25
Black Eyes ....2.50@2.75

Nuts.

Walnuts, No. 1 soft shell ....13@14½
Do, No. 2 ....8@10
Do, No. 1 hard shells 12
Do, No. 2 hard shells 10
Almonds, paper shell .....16@17½
Almonds, soft shell ....17@17½
Peanuts, Eastern ....7½@9
Peanuts, Eastern ....7½@8

Honey

Honey, comb, frames ....12½@13
White, strained, per lb .....5@5½
Amber 4½
Beeswax ....22@25

Hay.

Barley, new ....12@14.50
Alfalfa, local, new 14
Alfalfa, Northern ....11@12.50
Wheat, new ....13.50@14
Tame Oat, new ....11@14.50

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat ....$1.40@1.45
Barley ..... 1.10@1.13½
Corn ....1.25@1.30

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran $1.30
Feed Corn Meal 1.55
Middlings 1.40
Wheat ....$1.65@1.70
Cracked Corn $1.50
Corn $1.45
Oil Cake Meal $2.10
Cocoanut Meal 1.55

Chas. F. Edison of Los Angeles, has the ageny of the seven southern counties for the Cyclone car cooling process patented by A. R. Sprague.

San Francisco Markets.

San Francisco, Nov. 16, 1905.

Dairy.

There has been scarcely any change in the butter market during the past week, the better local grades ruling a trifle lower, storage remaining unchanged.

BUTTER—Fresh California, extra, 25½c, firm; firsts, 24c, steady; seconds 23c, steady.

Eastern Extras, 24½c, steady; firsts, 23½c, steady; other grades nominal; Ladles, extras, 20c, steady; firsts, 19c steady; other grades nominal.

Storage—California extras, 24½c, steady; firsts, 23c, steady; Eastern extras, 24c, steady; firsts, 23c, steady; Ladies, firsts, 20c firm; firsts, 19½c, steady.

CHEESE—New California, fancy, 14c, steady; firsts, 13½c, steady; seconds, 12@12½c, steady; Young America, fancy, 14c, firm; firsts, 13½c, firm; seconds, 12½c, firm.

Eastern—Cheddars, 15½c, firm; Flats, 16c, firm.

Western — Cheddars, 14c, firm; Twins, 14½c, firm.

Storage—California fancy, 12½c.

Eggs.

Eggs have remained as for a week past with the exception of an advance of one cent on fresh ranch.

EGGS—Fresh—California ranch, selected, 51c per doz, firm; firsts, 46c, steady; seconds, 35@36c, weak; thirds 34c, steady.

Eastern—Selected, 27½c, firm; firsts, 24@25c, firm; seconds, 20c firm.

Storage—California selected, 27c, steady; firsts, 25c, steady; seconds, 24c, steady; California Store, selected, 25c; firsts, 24c. Eastern, selected, 25c, firsts 23@24c.

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; Young Roosters, $5@6; fryers, $4.50@5; Broilers, $3@4; Hens, small, $4.50@5; large, $5.50@6.50; Live Turkeys, per lb, 19@20c; Dressed Turkeys, 22@24c; Ducks, old, $4.50@5; young, $4.50@6; Geese, per pair, $2@2.25; Goslings, $2.25@2.50; Pigeons, per doz, old, $1@1.25; young Pigeons, $2@2.25.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, extra, $1.50@1.75; fancy, $1@1.35; common to choice, 50@90c.

Pears—Per box, Winter Nellis, $1.75@2.25; other varieties, 75c@$1.25.

Table Grapes—Per small box or crate, 75c@$1.25; open boxes, $1.25@$2, as to variety.

Persimmons—Per box, 75c@$1.

Quinces—Per box, $1@1.50.

MELONS—Cantaloupes—Per crate, $1@2; Nutmeg Melons, per box, 75c@$1.50.

BERRIES—Raspberries—Per chest, $10@12.

Strawberries—Per chest, Longworths $9@12; large varieties, $5@7; Santa Clara, $8@10.

Strawberries—Per chest, Longworth $8@9; large varieties, $4@5.50; Santa Clara, $6@8.

Citrus Fruits.

CITRUS FRUIT—Per box, Oranges, Navels, $1.50@3.50; Lemons, $1.50@3.50; Limes, $4@4.50; Grape Fruit, $2@3.50; Tangerines, $1.50.

Vegetables.

VEGETABLES—Tomatoes, per box, 25@50c; Southern, 75@90c; Green

Peppers, per box, Chili, 65@90c; Bell, 85c@1.25; Beans, per lb, Green, 7@8c; do, Wax, 7@8c; Lima, 6@7c; Garden Peas, per lb, 6@6½c; Cucumbers, per box, $1@1.50; Summer Squash, per box, Southern, 75c@$1.25; Egg Plant, per box, 75c@$1.25; do, Southern, per lb, 5@7c; Garlic, per lb, 5½@6c; Marrowfat and Hubbard Squash, per ton, $15@20.

POTATOES—Per ctl: River Burbanks, 70@90c; Salinas Burbanks, $1@$1.40; Oregon Burbanks, $1@1.20; Sweet Potatoes, Merced, $1.40@1.50.

ONIONS—Per sk, Yellow, $1.10@1.20.

Dried Fruits.

Apples—Evaporated, fancy, 8½@9c; choice, 7½@8c; standard, 7@7¼c.

Plums—6@9c, as to variety and quality.

Silver Prunes—7@8½c.

Nectarines—7¼@8½c.

Prunes—Sack basis, f. o. b. For boxed goods, add ¼ and ½c; 4-size, 3½@4c basis; small and large size, 4@4½c basis.

Pears—Bartlett, unpeeled halves, fancy, 12c; choice, 9@10c; standard, 7½@8c.

Figs—Per lb., White, 10-lb. bxs, fancy, 60c; choice, 55c; standard, 50c; Layers, 50@65c; bulk, fancy, 4c, choice, 3¼c; standard, 2¾c; ungraded 3½c.

Raisins are unchanged for past week.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Beans and Peas.

BEANS—Prices per ctl: Large White, $2.25@2.60; small do, $3@3.25; Pea, $3.25@3.75; Lima, $3.40@3.50; common shipping points, $3.20; Red, $3@3.50; Pink, $1.75@2.15; Bayos, $3.50@3.75; Blackeyes, $4.40@4.60; Red Kidney, $3.50@4; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $1.75@2; Green, $1.75@2.25; Field, $1.50@2.

Live Stock.

Conditions throughout all departments of the Live Stock market are purely a reflection of the features thoroughly reviewed for some time past. Sheep continue in scant supply and rule strong at full quotations and A1 Steers and Lambs share second place interest at firmly held rates. Calves and Hogs are plentiful at the familiar prices.

CATTLE—No. 1 Steers, 6½@7; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers 5@5¼c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c; Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 4¼@4¾c. gross weight; Ewes, No. 1, 3½@4c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hops.

The price of desirable grades is nominal at 8@12c per lb, according to quality.

Hay and Cereals.

HAY—Per ton: Wheat, $11.50@16.50; Wheat and Oats, $11@15.50, Oats, $9@13.50; Barley, $8@11; Clover, $7@10; Alfalfa, $6.50@9.50; Stock, $5@7.

WHEAT—No. 1 Shipping, per ctl. $1.36¼@1.40; inferior grades, $1.20@1.35; White Milling, good to choice, $1.40@1.43¾, and $1.45 for fancy.

BARLEY—Choice No. 1 Feed, $1.10@1.20; common to fair, $1.15@1.16¼; inferior grades, $1.10@1.13¾; Shipping and Brewing, $1.23¾@1.27½,

OATS—Good to choice White, $1.35@1.45; Red, $1.50@1.62½ for choice to fancy; $1.15@1.32½ for common to fair; black, for seed, $1.60@1.70; lower grades, $1.25@1.55.

RYE—Good to choice, per ctl, nominal; new, $1.45@1.52½.

CORN—Good to choice, per ctl: California, new, large Yellow, nominal; small do, $1.60@1.65; White, nominal; Eastern Yellow, $1.40@1.42½; White, $1.32½; Mixed, $1.35@1.40.

CITRUS MARKETS

The new crop navels are now moving eastward at the rate of some fifteen cars daily, while old crop Valencias are practically gone—the high prices being maintained to the last, the sum of $3095.91 being gross amount received for a car of Old Mission brand Valencias last Thursday in New York, while the last car of Old Missions was sold Wednesday for the magnificent sum of $3668.65, the average for the entire car being $8.83 per box. The new navels are arriving in good condition for this date and bringing good prices.

New York.

One car of Valencias and one of lemons sold Friday. The oranges were from the Arlington Heights Fruit Co. and ran from $3.62 to $6.25 per box. Lemons brought $4.57@5.04.

Monday one car of new crop navels was offered, the fruit immature, and sold for $2.10@3.05. Altland Fruit Co. shipper. Two cars of Valencias were sold at high prices. Old Mission and Portesia brands bringing as high as $10.12½ per box. Four carloads of lemons were sold at the following averages: Silver, Ar. Hts. Co., $3.95; Squirrel, fy, A. H. Co., ½s, $4.94; Warrior, ex ch, Stewart Ft. Co., $3.40.

No oranges offered Tuesday, but three cars of lemons commanded good prices. Flower, fy, Upland, averaged $2.50; Mallard, fy, No. Pomona, $4.39; Santa Paula, fy, $3..67.

One car of Old Missions sold Wednesday at an average of $11..92 for fy, $8.58 for ch, while Artesia, A. H. F. Co., Prenda, brought $10.34 for fy and $5.50 for ch. Two cars of new navels arrived from Exeter in good condition. Prices: Mariposa, fy, Exeter, $3.82@$3.25; Moore Estate, fy, Exeter, $4.35@2.50.

Chicago.

Lemons Friday in over supply, but sold fairly well; 360s, $4.50@4.75; 210-240s, $4@4.50; 420s, $4@4.25.

Oranges steady with light supply. Valencias, $5@6.

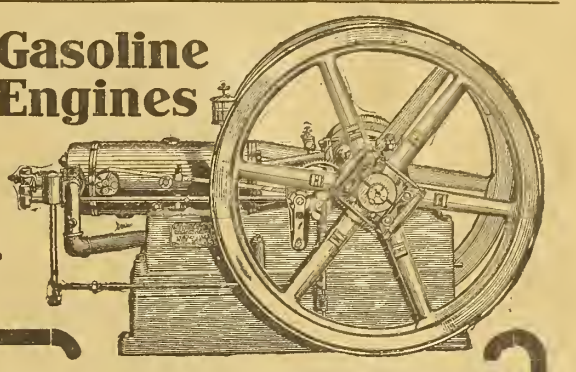
New crop navels on the market Monday, well colored and nice, with steady prices. Lemons unchanged. Old Valencias Tuesday brought $5@6, while lemons were steady at followig prices: 360s, $4.25@4.50; 300s, $4.50@$4.75; 210-240, $3.75@4;420s, $3.75@$4.00.

New navels Wednesday sold for $3.75@4 per box.

Lodi sends the following summary of the cars shipped from that point during the season of 1905: 600 cars of table grapes, 400 cars of wine grapes, 35 cars of tree fruits, 40 cars of almonds, 150 cars of grain, 50 cars of hogs, 135 cars of melons, 3800 cases of eggs, 30,000 chickens.

I. H. C. Gasoline Engines

Best For Irrigation.



WHEN it comes to pumping water for irrigation purposes the "I. H. C." Gasoline Engines will be found the **simplest, safest** and the most **durable and economical.** They can be attached to any kind of pump, in any position, for raising water from deep or shallow wells, reservoirs, canals or running streams. They excel in **full, regular and long sustained power.** They can also be used for a general purpose engine for sawing wood, churning, cream separating, feed grinding, etc. They give the maximum of power at the minimum cost. No expert knowledge or trained engineer necessary to operate them. They are unequaled for power of all kinds. Made in a variety of sizes and in two styles. **Horizontal or Portable 6, 8, 10, 12, 15 Horse Power. Vertical, 2, 3, 5 Horse Power.**

Call on local agent and examine these engines or write nearest general agency for illustrated catalog showing how they will save you money.

WESTERN GENERAL AGENCIES: Denver, Col., Helena, Mont., Portland, Ore., Spokane, Wash., Salt Lake City, Utah, San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, ILL.
(INCORPORATED.)

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY
PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

RUBEROID ROOFING

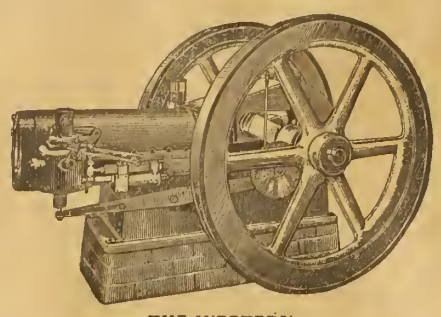
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE
Both Phones 679
242 to 248 So. Los Angeles St., Los Angeles, Cal.

Ask for Ames California Cups they are made of the Best California Oak Tanned Leather. Every Cup Guaranteed
MANUFACTURED BY A. T. AMES, GALT, CAL.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

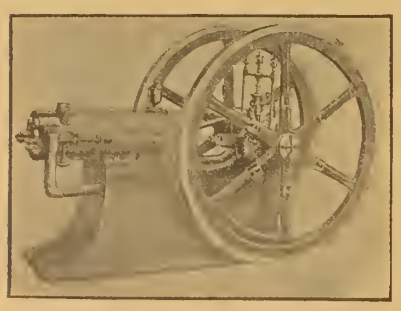
BEST, STRONGEST, SIMPLEST
MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

BUY NOW AND GET SUMMER PRICES
BURNS CHEAPEST FUEL

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

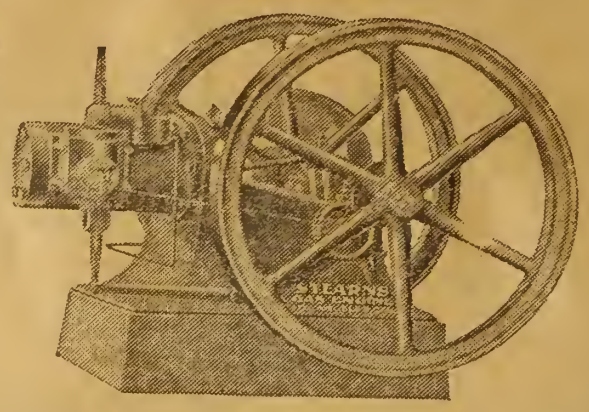
Wm. Gregory
602 North Main St. Los Angeles, Cal.

NO, THIS IS NOT AN ARTESIAN WELL, BUT

AN IRRIGATION PUMPING SYSTEM
SUPPLIED BY
S. J. SMITH MACHINERY CO.
POWER PLANTS, PUMPING MACHINERY AND WATER SUPPLY GOODS
129 No. Los Angeles St., Los Angeles, Cal.

When writing to Advertisers Please mention Cultivator

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use
Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

NATIONAL WOOD PIPE CO.

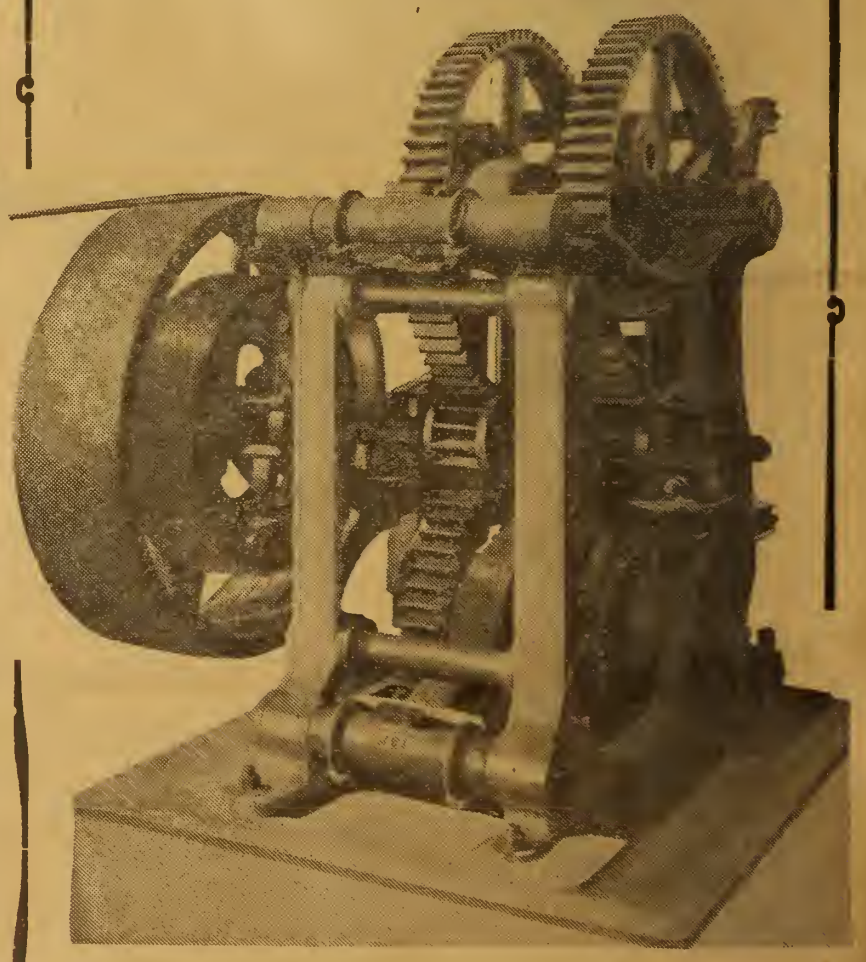
MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR **WOOD PIPE** WOODWARD PATENT MACHINE BANDED PIPE WHEELER PATENT CONTINUOUS STAVE PIPE BORED WOOD WATER PIPE

Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

The Record for the New Pomona Pumps

FOR 1905

Not a Broken Rod, Not a Plunger Pulled for Repairs



The irrigation season just closing has demonstrated fully the high merit and efficiency of the New Pomona Pumps.

Every one installed has passed through the season's run without breaking a rod or requiring the valves to be pulled for repairs, proving conclusively that the ideal beam motion used by these pumps is more than has been claimed for it.

The slow, uniform motion upward and the quick, smooth down motion handles the rods without any jerk or jar, while the long lap of the plungers in passing the dead points, keeps the water column in continuous motion upward and a steady stream flowing from the discharge pipe.

They have passed through the experimental period and are built better than ever for next year.

The ideal pump for irrigation purposes. Send for catalog.

Pomona Manufacturing Co., Builders, Pomona, Cal.

30.5

California Cultivator

LOS ANGELES SAN FRANCISCO

NOVEMBER 24, 1905

THANKSGIVING SCENES IN CALIFORNIA

FROM THE PRESIDENT'S PROCLAMATION.

"During the past year we have been blessed with bountiful crops. Our business prosperity has been great. No other people has ever stood on as high a level of material wellbeing as ours now stands. We are not threatened by foes from without The foes from whom we should pray to be delivered are our passions, appetites and follies; and against these there is always need that we should war.

Therefore, now I set apart Thursday, the thirtieth day of this November, as a day of prayer for the future, and on that day I ask that throughout the land people gather in their homes and places of worship, and render thanks unto the Most High for the manifold blessings of the past year."

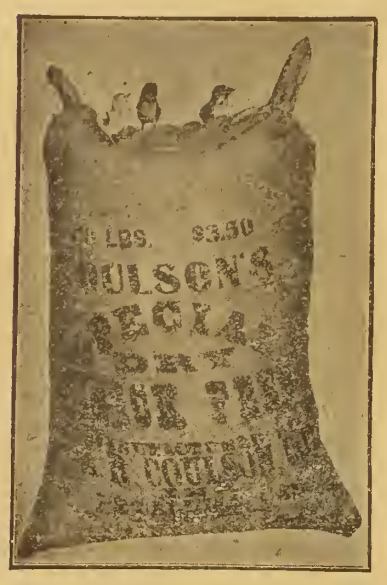
CIRCULATION EXCEEDING 10,600

$500.00. WHAT ABOUT IT?

Look for a Little Envelope in the 100 Pound Sacks of

Coulson's Special Chick Feed

——For Little Chicks and Turkeys——



You will have the best success you ever had in raising chickens if you will feed COULSON'S SPECIAL DRY CHICK FEED. Send for sample. It's good for turkeys as well.

This Chick Feed is composed of small pieces of cracked grains, also a variety of seeds and small pieces of charcoal, meat and bone. It therefore contains a variety of the best and most wholesome ingredients in the right proportions to promote the growth of chicks and turkeys and fully nourish them so they will reach maturity early, and be vigorous, strong, healthy birds.

ECONOMY IN USING COULSON'S SPECIAL CHICK FOOD.

By a series of tests it is found that chicks will gain weight much quicker on COULSON'S CHICK FOOD, AND at less cost than those fed on grain.

Chicks fed on COULSON'S CHICK FOOD will reach the weight of two pounds a month sooner than those fed on grains, and they will reach the average weight of three pounds eight weeks sooner.

It is the knowledge acquired through patient study and keen observation which enables us to give the proper feed to poultry in order to raise the largest percentage of the chicks hatched. With COULSON'S SPECIAL DRY CHICK FOOD and COULSON'S GROWING CHICK FOOD many succeed in raising from 95 per cent to 98 per cent of the chicks hatched and you can do as well. TRY IT THIS YEAR.

Mr. Poultryman, there is only one way to buy, and that is, on record of what you want. If you want to raise lots of nice chicks, buy good feed.

COPIES OF LETTERS RECEIVED.

I have fed your Chick Feed since I started this place about September 1st—last—and have sold 3,400 chicks and have 800 on hand now.

A. Mc HORTER.

I like your Special Chick Food better than anything I have ever used.

MRS. GEO. THISSELL, Jr.,
Winters, Cal.

$500. What about it?

I have used your Special Chick Food since last March, and am still using it (July 7th). I believe it to be all right. I have lost less chicks than other years. It is good—the best I ever bought.

R. A. WHITFORD.

I had read so much of your Incubators that I thought I must try one, and I am more than pleased with the one I bought. I have also tried your Chick Food and think it fine. I have to go twenty-two miles to get it.

MRS. MAY LYMAN,
San Bernardino, Cal.

I have used your Special Dry Chick Food and recommend it to all my neighbors.

MRS. IDA L. PARKER,
Eureka, Cal.

I think your Chick Feed is fine. I never lost one while I fed it, and never saw chicks grow so fast in my life.

MRS. HATTIE DEAN,
Mesa, Washington.

Our chicks are doing splendidly on the Special Chick Food. No losses except by accident.

J. HUNTER.

COULSON'S FOODS GIVE BEST RESULTS.

I am a user of Coulson's Chick Food and have raised 1100 chicks this winter. The first hatch I used some other food and lost over sixty. My second I raised on COULSON'S CHICK FOOD, according to directions, and lost only ten. Then in my third hatch I fed COULSON'S CHICK FEED—dry—three times a day for three weeks, and out of 394 chicks, I lost only two, and all are doing fine. Now, chicken raisers in this locality are wondering at my success, and I am praising COULSON'S FOOD as much as I know how. (Signed) F. E. HEUSEL,
Half-Moon Bay, Cal.

We receive much praise for this Special Chick Feed for it pleases the poultrymen and it pleases the chicks.

Many of the large poultry raisers near Petaluma purchase the Special Chick Food by the wagon load.

COULSON'S CHICK FOOD

Contains ingredients that long experience in poultry raising has found best adapted to give nourishment to growing chicks. It is promptly digested; causes no indigestion; keeps bowels in normal condition. Chicks show increase in weight, strength and beauty when fed it exclusively. Little chicks need no other food for the first five or six weeks. Save your chicks and make good profits.

Keep them from bowel trouble and all ailments incident to the first five weeks. Profit lies in the chicks you raise to maturity—not in the number hatched. Give them a ration that makes healthy, well developed bodies.

Remember Mr. Bassett sold broilers only six weeks old for $3.75 a dozen. They were fed on Coulson's Chick food

BEGINNING LIFE ON COULSON'S CHICK FOOD.

TEN WEEKS OLD CHICKS RAISED ON COULSON'S CHICK FOOD.

There may be a pleasant surprise in store for you. You will find it in the 100 lb. sacks.

Send me another sack of Coulson's Chick Feed. It seems to be just th thing for young chicks, they are doing fine —H. A. DUN, Tacoma, Wash.

Coulson Poultry and Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Southern Distributing Agents, 326-330 South Main Street, Los Angeles, Cal.

$500.00. Look for Little Envelope in the 100 lb. sack of Coulson's Special

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 21 LOS ANGELES, CAL., FRIDAY, NOVEMBER 24, 1905 Subscription $1 a Year

Tulare County Hardpan and Hogwallows

By H. D. Barton, Orosi

The conclusion I have reached as to the manner of the formation of hardpan and hog wallows is partly the result of what I have read, but mostly the result of my own observations. In the first place, to make the subject intelligible, let us take a look at the constituent parts of the material or rock from which the soil of this valley is formed. The rocks, the disintegration of which is making this valley, are all primary or transition, they all having been thrown up just subsequent to close of the old red sand stone or Devonian, and near the middle of the Palaeozic period and some erupted or volcanic matter. Of these rocks the predominating minerals are feldspar, hornblende quartz, and mica, in the order named. Now the component parts of these minerals are Feldspar, Sp. Gr. 2.54, composition: Silex, 62.83, alumine, 17, potash 13, lime,3, iron 1. Hornblende, Sp. Gr. 3.38; composition: Silex, 47.21; alumine, 13.94; lime, 12.73; magnesia, 21.86; oxide iron 2.28; oxide manganese, .54; flouric acid, 90; water .44. Quartz, Sp. Gr. 2.63; composition: nearly equal parts oxygen and silicium. Mica Sp. Gr. 2.7; composition: Silex .48; alumine 34.25; potash 8.75; iron, 4.5; maganese, .5; water, 1.25.

These are the principal minerals that constitute the rocks that form the Sierra Nevada mountains. Of course, there are a great variety of other minerals in greater or less quantity but these predominate and are all that is necessary to make hardpan, and hog wallows. As all of these primary rocks are in their highest state of oxydization, further decay is impossible. A cubic foot of granite is said to carry about a hundred pounds of oxygen in a concentrated form, the manner of which, is not yet understood. It is necessary, at first, for these rocks to disintegrate mechanically, that is, by the agency of heat, cold and moisture, penetrating the surface and separating the crystals. When some of the flourine acid of the hornblende is liberated it attacks the silex of the feldspar, dissolving it and forming clay. The silex of the hornblende is also dissolved and this being nearly one third heavier than the other material when it is carried to the plains by the water is thrown down along the foothills ,and forms what is called dry bog. The lighter material is leached out and carried farther away. We now have liberated all the material necessary for the formation of hardpan and hog wallows. Various causes have been assigned by different scientists for bringing about these little knolls. As a result the idea that they were thrown up by squirrels or other burrowing animals, is a common one. Even the ant is supposed by some to be guilty. That wind blowing loose sand that lodged against certain shrubs, said shrubs having long since disappeared, is thought by many to be the cause. Even Professor Goodyear, the state mineralogist supported this theory. That they were formed under water by the action of waves when this valley was a sea is also argued. We had just as well overthrow this last theory right here. The glacial epoc was just subsequent to the time that the sea covered this valley. On the north side of King's river and extending for several miles out on the plains is the part of a terminal moraine. The river has cut through it and has washed the greater part of it away and the river channel now is several miles from the lower end of the moraine, and between them is the old river bottom, with a substratum of round washed river boulders. Overlying these boulders is the common red clay of the plains with hardpan and hog wallows. Another theory, hardly worth notice, is that they were formed at the same time and by the same forces that uplifted the adjacent mountains. We have the authority of the historian, Huber H. Bancroft, that they are the work of a race of prehistoric men, he giving room in his "Antiquities of the Pacific Coast" for a writer to describe them as artificial. Finally, there is the igneous theory, which is attributed to Humboldt and supported by nearly every one who has excavated them, while it is found that all the more abrupt knolls possess a crater that reaches through the hardpan. On account of their resemblance to the fumaroles which Humboldt saw in the vicinity of Mt. Jurollo in Mexico, he attributed the same origin to both. The difference is this: the fumaroles are round, with the highest point in the center, while the hog wallow is rather oblong, with the highest point at the north end. Hardpan, which is the first cause of the hog wallow, is composed of our ordinary red clay soil, cemented together with hydrous sesquoxyd of iron and carbonate of lime. It is formed partly by evaporation and partly by the water from below carrying the lime and iron coming in contact with the rain water from above, carrying carbonic acid. The lime and acid unite, forming carbonate of lime, and this is the process by which hardpan is formed. During the floods of '62 and '68, and before the channel of the St. John was cut down, the Kaweah rivers swept bare several acres of hardpan, just above the Venice hills. The surface of the harpan showed here to conform somewhat to the original surface of the soil usually showing a hole or crater, some two or three feet in diameter, near the north end of each hog wallow, extending down clear through the hardpan. The walls are smooth and hard, except the north side, where they sometimes are broken and uneven, probably the result of the north side being more

(Continued on Page 486)

The Half-Berried Salt Bush (Atriplex semi-baccata).
A Good Forage Plant for Hardpan Sections.

California Horticulturally

By John Isaac, Sacramento, Cal.

SMUDGING FOR THRIPS.

Editor Cultivator: Would be glad to know if smudging has been tried for "thrip" and whether sulphur could be used in conjunction with some matter to cause more smoke. Would like suggestion as to best and cheapest vessels to put it in to cover a fifteen acre prune orchard.—F. L. O., San Jose.

Smudging would be of little use in reducing the thrips pest, the use of sulphur as suggested might be of service in reducing it, but the best remedy as yet is spraying with some of the oily washes, as kerosene emulsion, or whale oil soap just as the buds are swelling, but this is only a partial remedy. Dudley Moulton, entomologist of Santa Clara county, who has made a special study of this pest, recommends winter plowing, with careful working around the trees which will kill the immature form. This work should be done before the first of February, at which time the mature insects begin to come out of the ground. We have never tried the sulphur smudge, but think that burning sulphur covered with damp straw, as used in ordinary smudging, would increase the volume of smoke.

* * *

TOKAY GRAPE SHIPMENTS.

It is said that it is an ill wind that blows no one good, and so in the present season of late rainfall, while the stock and dairy men and the miners are praying and suffering for rain, the growers and shippers of table grapes are returning thanks, as their season has been very materially lengthened and their profits increased. The shipments of table grapes from Northern California will total up some two thousand carloads for the season, and the prices, which have been received, are even satisafctory to the growers—and that is saying much. Many Tokay vineyards have returned $300 and upwards per acre, and reports have been made of some which have exceeded $700. The Tokay is the best export grape grown in California today. The berries are large, the clusters of great size, the color very attractive, and the shipping qualities superior. All these combine to make it profitable. It is also a heavy bearer and gives a certain crop almost as regularly as the seasons. To attain best results, however, it demands suitable soil and climate, a deep, sandy alluvium, such as is afforded by the river bottom lands of the Sacramento and San Joaquin valleys, with continued hot weather and abundant sunshine in the ripening season. The best and principal Tokay section so far known, is found in the northern part of the San Joaquin and the southern end of Sacramento counties. This area will be greatly enlarged, however, if the high prices continue, which is quite probable, as there are very large areas in other parts of the State where the Tokay will do equally well.

* * *

SACRAMENTO ORANGES FOR AUSTRALIA.

Sacramento county is not usually placed in the list of citrus fruit producers, yet a good many oranges are grown here, and not for mere curiosity, either, but as a commercial proposition. A shipment of four carloads of oranges are being packed at Orangeville, which will be shipped from San Francisco on the 20th inst., for Australia. The pioneer shipment to this destination was made from this section a year ago, and consisted of one carload, which gave such good results that the order has been quadrupled this year. This shipment will be made up from the orchards of William Calder, D. D. Harris, G. M. Mott and Jones & Givens.

* * *

BLESSINGS IN DISGUISE.

Very many of the apparent ills which befall us are really blessings in disguise, and one of these is the decadence of the great wheat industry of our State. In the early days, with a virgin soil, of seemingly unlimited fertility, wheat growing was enormously profitable, and the pioneers in that industry made a mint of money, which they regularly invested in more land, until vast areas of the best lands of the State were rolled up in the possession of a few individuals, and there was little hope for the small farmer. In Colusa and Glenn counties, especially, the population steadily decreased as one after another of the smaller holdings was absorbed by the wheat lord. But year after year of continuous cropping to wheat gradually exhausted the soil, and each year it gave smaller returns, while other countries produced a greater quantity for the world's market and prices declined as the crops grew smaller until wheat growing became a losing business. Those who were in it had their all invested in land, and teams and machinery, and they were compelled to keep on even at a loss, or sacrifice all. The result of all this has been that the land grabbers have found themselves in a tight place and are now eager to let go, and the great wheat ranches of the Sacramento valley are being cut up and once again settled in small homesteads. In connection with this movement, there is a strong agitation in favor of a grand system of irrigation by which the whole of the arable lands of the Sacramento valley, comprising 2,661,120 acres, can be put under ditch. Two new canals have been opened by private enterprise during the past year, and the great Central Canal, which has been tied up for years by obstructionists in the courts, is being finished, and efforts are being made for government assistance in converting the Big Valley, on Pit river, into a reservoir site to conserve the winter rainfall. That all this will be done is unquestioned, it is only a matter of time, and then in the place of miles and miles of wheat stubble, we shall have the valley dotted with thousands of prosperous homes, supported by all kinds of industry. Population is coming, and coming fast, and there is only one California, and all sane people want to come here. We have got to make room for them in every corner of the State, and even then we may not have room enough for all.

* * *

INCREASING IMPORTANCE OF THE FIG.

Very little is said about the fig, yet it is steadily increasing in importance as one of the horticultural products of the State. Each season sees a very large addition made to the acreage in this fruit, especially in the Sacramento valley where it is steadily growing in favor, as it is also in some portions of the San Joaquin. Very much of this popularity is due to the introduction and establishment of the fig insect, which has made possible the production of the choicest varieties of commercial figs. The largest plantings of Smyrna figs have been made in Tehama county, especially in the vicinity of Corning, and in Stanislaus county; in both of which sections some solid orchards of figs comprising a very large acreage have been planted. This fruit is paying well, and there is undoubtedly a good future ahead for it. So far the greater part of the pack of figs of the White Adriatic variety; not a first-class fruit, and which has the bad habit of fermenting and souring at the blossom end, but even now the pack is a very important one and ranges from 5,000,000 to 8,000,000 pounds annually. As showing the profit from the common fig, it may be stated that F. S. Jones of Cordelia, Solano county, netted this season $150.00 from eight trees. The Smyrna should do even better than this, and as the output and pack increases, and it becomes popular, as it will when it is more widely known, a new and very important fruit industry will be developed.

* * *

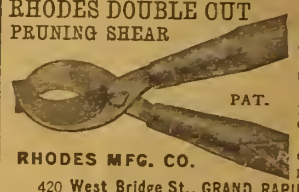
DATES IN FRESNO COUNTY.

From very much that appears in the press in relation to dates and their planting on the Colorado, it might be supposed that this was altogether a new thing in California. Such, however, is not the case, for we have never been to an agricultural fair in California in the past thirty years that some one has not had a bunch of dates, and usually very good ones, on exhibition. They have not been grown commercially for several reasons; the climate in the valleys is against them, and little has been known of their culture and the varieties which would do best and give proper returns, and even less has been known as to their packing and marketing. The date is a new fruit commercially, and everything about it has yet to be learned, but that it will grow and do well in many parts of the State, has been amply demonstrated. As we write, we have before us some dates grown by George Roeding, in Fresno county. The fruit is large, well shaped, with small seeds, a large proportion of meat, and of as fine flavor as any imported figs we have ever eaten. Mr. Roeding, writing of them, says: "It is not the first season that I have produced these dates in Fresno, but I have never succeeded in harvesting so many of them. We have probably gathered, so far this year, one hundred pounds. Of course the palm which has produced these dates originated from a seed. As far as this locality is concerned, date culture has no commercial importance, for as a rule the rains come too early and cause the dates to rot." Date growing is, therefore, not an experiment in California. What now requires to be determined is where we can grow them successfully as a commercial proposition, and the experiments now going on on the Colorado river may solve this question and add another important branch to our varied horticultural interests.

THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

Thompson's Seedless Grapes
Rooted Vines, $4.00 per hundred. Write
E. E. GERRY, SANTA PAULA, CAL.

600 Almond Trees For Sale
The Nonpariel, I X L, Ne Plus Ultra, Hachе's Prolific, Drake's Seedling. Height, 3 to 7 feet. Prices on application.
Isaac Martin - Merle, Cal.

RHODES DOUBLE CUT PRUNING SHEAR


Cuts from both sides of limb and does not bruise the bark.
We pay Express charges on all orders.
Write for circular and prices.
RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

Berry Plants and Grafted Walnuts
Grafted Walnuts on both the Native Black and English Walnut Roots. Also Santa Barbara Softshell Seedlings. Cradadall Blackberry, Brandywine Strawberry and Loganberry Plants. Prices on application.
Toluca Nursery, G. Tosetti, Prop., Toluca, Cal.

THE VERNON NURSERY
4524 Central Avenue, Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL, Prop.

VINES
Rooted Vines, all varieties, on their own or resistant roots.
Minnewawa Vineyard, Fresno, Cal.

BLUE GUMS
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity.
Geo. B. Warner, Santa Ana, Cal.

TREES
ORANGE, OLIVE AND ALL OTHERS
Place orders now for delivery in time for season 1906.
Calimyrna Fig
[Genuine Smyrna Fig of Commerce]
Our greatest specialty, Wonderfully Successful. The only fig fit for commercial purposes. Our Calimyrnas are guaranteed true to name and bear our seal
Large Catalogue illustrated and full of general information, English or Spanish, mailed for 5c. postage.
Fancher Creek Nurseries, Inc.
Paid-up Capital $200,000.00
Geo. C. Roeding, Pres. & Gen'l Mgr.
FRESNO, CALIFORNIA.
Growers of Trees and Vines of all sorts

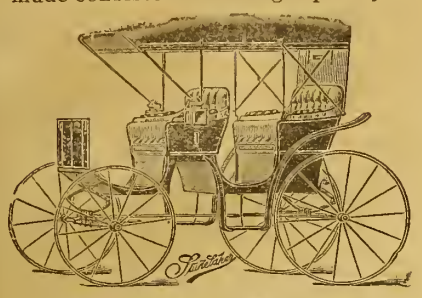
CHICO NURSERY CO.
Our Specialties:
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS
Complete Line of
FRUIT TREES
and
ORNAMENTALS
Agents Wanted
Third and Walnut, CHICO, CAL.

VEHICLES HARNESS IMPLEMENTS

We Carry a Complete Line of Standard Buggies and Wagons, Single and Double, Light and Heavy Harness and Farm Implements of Every Description

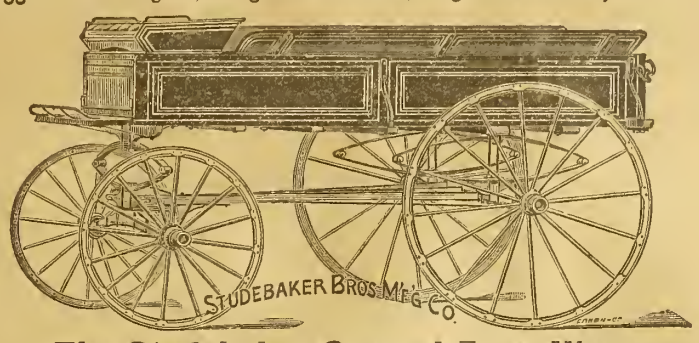
Our prices are as low as can be made consistent with high quality.

Our goods are all guaranteed to be rictly first-class in every respect.



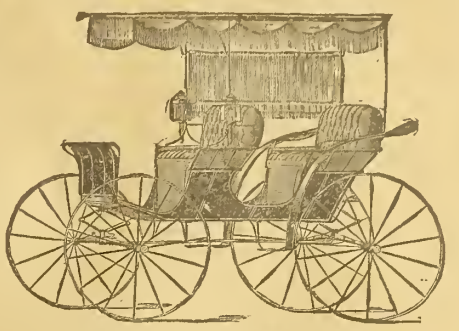
Studebaker Surreys

Are the ideal family buggy. They are well built — not merely thrown together. We carry them in either canopy or extension top; steel or rubber tires and can be fitted with a brake at slight extra cost. PRICES, **$175.00** and up.



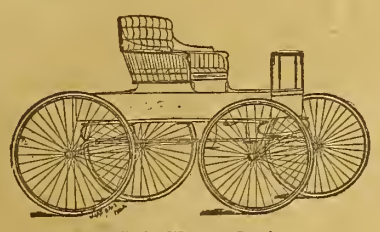
The Studebaker General Farm Wagon

Is made to meet every requirement on the farm. It is strongly built of the best material and the parts are assembled and adjusted by experienced wagon makers. Body equipped with wings and drop endgate. It is a thoroughly practical vehicle and one that has given perfect satisfaction. PRICE, **$57.50.**



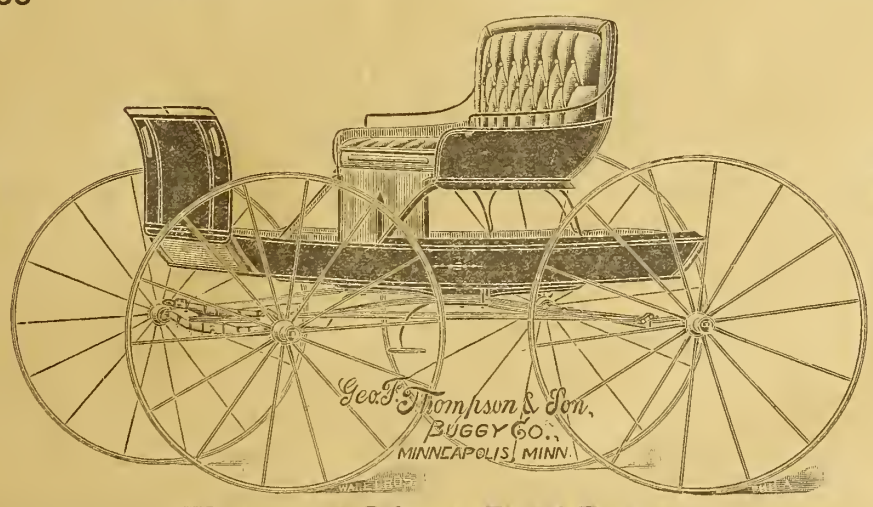
Studebaker Surreys

Have long running axles, 1 1-16 inch, wheels are 3 feet 10 inches high. Body is painted black, gear dark green or carmine, neatly striped. Leather trimmings, double fenders and lamps. Complete with shafts and quick change couplings. PRICES, **$175.00** and up.



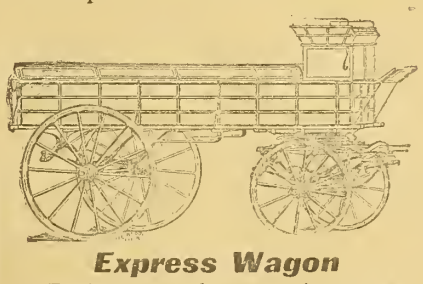
Light Roadster

A well-made, light buggy, built for speed and comfort; steel spokes, rubber tires, leather trimmings, 1-inch axles. Neatly painted and striped. PRICE, **$60.00.**



Thompson Climax Road Buggy

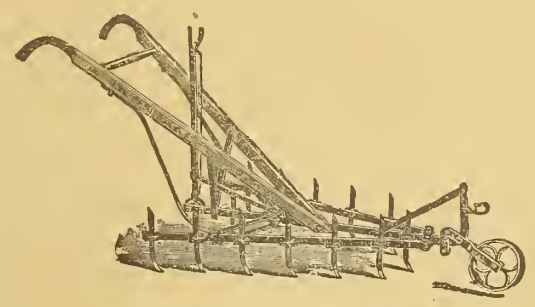
The famous Thompson Climax Road Buggy is guaranteed to be well made throughout and to stand any use to which a buggy of this character is usually put. One and 1-16 inch long distance axles; leather trimmed. Painted carmine or yellow and artistically striped. Body 29x60 inches. Everything complete for service and durability. A good road buggy at a medium price. PRICE, **$80.00** and up.



Express Wagon

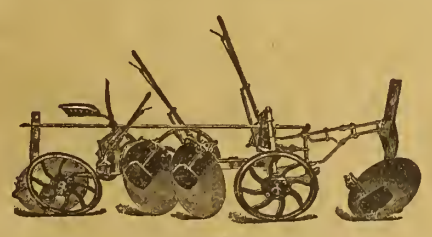
Designed for farm or city usage. Spokes firmly adjusted; tires doubly secured. Every part is fully tested before assembling. A thorough, serviceable wagon. PRICE, **$100.00** up.

We have a complete line of light vehicles suitable for children's use. They are strongly made with special care for the safety of the little folks. Durable and light running. PRICES, **$60.00 TO $100.00,** high grade.



Iron Age Harrow and Cultivator

A well-made implement selling at a low price. Teeth are securely fastened, but may be removed at will for close or narrow work. Easily adjusted to any gauge and securely held in place by lock attachment. PRICE, **$5.50.**

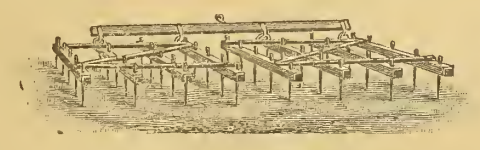


Emerson Disc Plow

The most improved plow on the market. May be converted from single to double or triple, or from double or triple to single. Adjustments are simple; levers within easy reach and bearings are dust proof. PRICES, **$65.00 TO $120.00.**

Harness Department

We carry a complete line of harness, including the famous Studebaker and Kipper makes. It is stitched on the latest Campbell lockstitch machines, making it stronger than if stitched by hand. Double and single, light and heavy. We also are prepared to furnish estimates and execute orders for any special kind of harness. All work thoroughly warranted. Every set carries our guarantee.



Steel Frame Harrow

This is a very popular low-priced harrow, having tooth bars either "zig-zag" or straight. Made in three sections of 20 teeth each. Well made and serviceable. PRICE, **$12.00.**

Our Catalogue

These are but a few samples of the immense stock we carry. Our catalogue will be sent upon request. It contains illustrations of buggies and wagons, farm implements of every description, harness of various weights and quality, together with accessories and smaller farm and orchard tools. It is complete in every particular and will be found very useful in making your selections. You should secure one for reference. All prices quoted.

Our Policy

Is to give full value for money received. We guarantee everything to be as represented and will make good any break not caused by misuse or neglect.

We want you to feel that we are glad to see you at our salesroom whether you buy or not. Always call upon us when in Los Angeles, and we shall be glad of the opportunity of showing our immense stock. We are near the center of town and within easy walking distance of all the leading hotels.

NEWELL MATHEWS CO.

ESTABLISHED 1886—INCORPORATED 1899

200-202-204 NO. LOS ANGELES ST. **LOS ANGELES, CALIFORNIA**

BY J. W. MILLS, POMONA, CAL.

TIME TO PRUNE PEACH TREES.

We have had several inquiries as to the proper time for pruning peach trees in relation to getting a heavy setting of fruit. Some growers claim that if they could prune after the blooming period, they could do it more intelligently, pruning long when blooms are few and shorter when plentiful.

This is easily and safely done on a small scale as with the "home orchard" or small acreage, but it is too expensive to be carried on in large orchards. Pruning is an expensive part of deciduous fruit growing and in order to do it economically, it must be done at a time when other work does not interfere and when no leaves are on the trees, as this makes more rapid work possible. By observing closely the setting of buds, as much can be gained as a guide as to wait till the bloom opens. The setting of a crop is not assured till the peaches are as large as half-grown walnuts. If we were to wait till then, the branches would have a new growth of a foot or more. It would hardly pay to lose all of that growth. However, late pruning may be worked advantageously to a certain extent by leaving the greater part of the small lateral branches at the time heavy winter pruning is done and cutting them off with the hand pruners at the time of thinning the fruit. This plan will enable the grower to regulate the size of his crop to a limited extent. If the laterals are left full length till thinning time, then short pruning in case of a heavy set and long pruning in case of a light set will regulate the crop to a certain extent.

Experience has shown that peaches may grow in groups or bunches and still grow large if the proper amount is left on the tree to mature, and it is not necessary to have the fruit at, or nearly regular distances. If a cluster of peaches contains three large fruits, at the time of thinning, they will make just as large fruit as though they were evenly distributed along the branch.

* * *

PEANUT CULTURE.

Editor Cultivator: Will you please advise me through the Cultivator, all about growing peanuts in the San Joaquin valley? The soil here is generally of a sandy nature. What kind of seed should I use and where can the seed be secured?—W. A. M., Tulare.

The best qualtiy of nuts is raised on dry saudy upland. Peauuts grown on damp land, have a yellowish color and the quality is not so good. The land should be well pulverized on the surface so that the peanut viues will lie close to the ground and uot be propped up on clods. It is also essential to have the surface free from clods in order that the embryo nuts may easily enter the ground. They should never be irrigated if grown ou land that will bake and it is not safe to irrigate on any kind of land as it is liable to discolor the nuts.

There is uo stated time at which peanuts should be planted as this varies according to the season. The seed should not be planted until the soil has warmed up in the spring for good. This occurs some time in May. If the planting is done before this condition comes about, the nuts will make uneven grades and besides the early matured nuts will not lift from the ground at harvest time as the stems get soft and break.

The variety most largely grown in California is the White Virginia or Virginia Runner and commonly known as the California peanut. It is the kind commonly seen on the market and is the typical American peanut.

The White Tennesseee resembles it. The Red Tennessee makes a less spreading growth and less 'pops' or empty pods than the two varieties mentioned above. The North Carolina nut has smaller pods than the above named kinds and contains more oil than any other peanut grown, weighing about six pounds more per bushel than other varieties. A bushel of good peanuts should weigh about 22 pounds.

The Spanish peanut grows more erect than the other varieties and forms the nut near the crown of the plants. This nut matures quicker than any other variety and produces well if planted close, the rows three feet apart and a foot apart in the rows. This is the variety most used by confectioners, the small round kernels being about the right size to mix in peanut candy.

The California peanut is the one to plant as it yields three or four times as much as the other varieties and finds more ready sale.

Peanuts should be cultivated about the same as corn, not allowing the weeds to grow among them, keeping the ground loose and mellow about them and when the spikes begin to form they should not be disturbed. If they are, it causes the nuts to blight or not fill out. The blooms do not require covering.

Peanuts should be harvested when ripe. If allowed to stand too long many over-ripe nuts are left in the ground and if the little ones are allowed to ripen they lower the grade and thus there is a loss at both ends.

Peanuts should be plowed out and thrown into windrows, nuts down and left lie for about a week or ten days. When dry they should be sacked, as the best nuts are cured in this way. They should never be allowed to get wet. The tops make good feed and are worth storing away for winter use. All kinds of stock like them and chickens do well on the small nuts. An average yield is about twenty-five sacks per acre, forty pounds per sack. With extra care and good soil, fifty sacks have been grown.

It takes about thirty pounds of the California nuts to plant an acre and fifty of Tennessee Red. The former variety should be planted in rows about three or four feet apart and sixteen or twenty inches apart in the row.

Seed may be had from any seed dealer.

HARDPAN.

(Continued from First Page.)

protected from the effect of the sun. The hardpan at other places is more or less corrugated, folded, and lapped, giving every evidence of an upheaving force in operation at the present time. The existence of alkali in the ground and its disposition to swell or effervesce when moistened, is the true cause of the upheaval of the hog wallow. It is probably accelerated by the fermentation of decaying vegetable matter on the surface, which is carried down with the rain water. I was informed by a man living near there, that on Antelope creek, this county, he had seen a piece of ground three rods long and one rod wide raised six inches in one day and night, during the first storm of the season.

The freed alkali must have more room as soon as it becomes hydrous, and other minerals increase in bulk also as the silicates change to the oxyds and the oxyds from the anhydrous to the hydrous state. This condition of constant change produces the force that leaves the cracks and furrows in the hardpan. The perpendicular cracks become permanent vents for the passage of the soil from below. The soil in these vents or craters is always soft, light and porous showing the result of its continual motion upward in wet weather and downward move in dry, but always more up than down, always wearing away most the north side of the crater where the material is softest, always forced from below by the same cause, the hydration of the alkalies.

It has been suggested that gypsum would have a tendency to soften hardpan, but I can not find any good reason for that belief.

The base of carbonate of lime and gypsum is the same, calcium or lime. The former, lime 57; carbonic acid, 43; the latter lime, 40; sulphuric acid, 60, and except in connection with some other property this proportion varies very little and in that case sulphate of lime could have little or no effect on carbonate of lime, which is the principal property of hardpan.

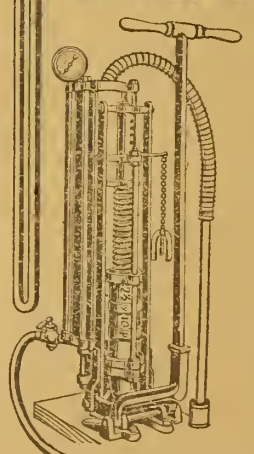
Some time ago, I wrote an article on mineral oils, it was published at the time in the Tulare Times, and in that article I think I made it appear quite reasonable that a change of lime from the carbonate to the sulphate would liberate all of the chemical properties necessary for the formation of petroleum oil and illuminating gas, and that by the agency of sulphuric acid.

Now from the strong affinity of lime for sulphuric acid it would be quite reasonable to try the effect of sulphur on hardpan; the effect would probably be to change the carbonate of lime to gypsum, thereby liberating carbonic acid and hydrogen gas. This would render the hardpan soft and porous.

Less Work—Better Results

The first matter of importance when spraying is to secure clean fruit and healthy trees; the next thing is to have expended the least possible amount of time and money.

Bean Magic Spray Pumps



are peculiarly adapted to do these things. They are entirely different from other pumps in almost every respect, but particularly because they

Save One-third The Labor

In the Spring rests the secret. What's the use in working so hard when the same results can be accomplished with a third less labor? Save time and effort by dividing the work, doing half at each stroke of the handle instead of doing all at one stroke, and meanwhile be working against only **one-half** the pressure indicated on the gauge. **Magic** pumps are built in two sizes and have non-clogging ball valves. It is worth your while to see one in operation.

Write for our special offer, freight prepaid, and we will also send our illustrated catalogue No. 16 describing all ten sizes of hand pumps and telling what sprays to use and how to prepare them. State number of acres and kind of fruit. Write today. (Catalogue No. 18 describes Power Sprayers.)

Bean Spray Pump Co.
161 W. Santa Clara St., San Jose, Cal.

Substantial Toys for Girls and Boys

AT HOEGEE'S
LOS ANGELES

As we grow old in business, we grow young at heart, and each Christmas time finds us better prepared than ever to meet the demands of our youthful friends for newer, more practical and stronger toys. This year it is the best to be had, and enough, we hope, to go around. If you cannot pay us a visit, write us about any article desired, and we will tell you all about it. Act quick, time is short.

Cyclone Pedal Wagons
Children's Autos
Auto Pedal Engines
Fly ng Dutchmen
Girls' Tricycles
Buckboards
Velocipedes
Wagons

Big Boys save good money by sending for our Atbletic and Gun Catalogue. You may learn what's what and bow to buy it. At this big store it is as easy to trade by mail as over the counter—and safe, too.

Tents, Guns, Irrigating Hose, Khaki Clothing

The Wm. H. Hoegee Co., Inc.
Phones—Ex. 7 138-142 So. Main St.

CITRUS FRUITS

By C. A. Day. Pasadena

ORCHARD CONDITIONS.

Our late rains are timely, saving to the orchardist further expense of irrigation. There is but little evaporation at this time of the year and a little moisture will go a long ways. In many cases the orchardist has continued irrigation up to the time of the first rain. This is always a safe plan as in many instances citrus trees are allowed to suffer from a lack of irrigation in waiting for the first rains that are often long deferred.

* * *

The Present Condition of the Orange Crop is fairly satisfactory. With the liberal rainfall of last winter and the early rains of this fall there should not be very much puffy fruit. In orchards that have received good care the fruit is well sized up.

Some weeks ago, the show for holiday fruit was very poor, but in the last two or three weeks the oranges have been rapidly coloring and there is now every evidence to indicate a good supply of oranges for the holiday trade.

There is in some localities an unusual amount of split oranges and the old question is again asked, what causes oranges to split and what is the remedy. Theories are advanced as to cause, but they are only theories. In ordinary years the loss from split is small. In some orchards there is some dropping of fruit, but it is notaing very serious. In some cases there is evidence of red spider. At this time of the year the red spiders are frequently congregated on the fruit. Examination shows but few eggs since the rains and as long as this condition lasts we need not look for serious injury from them. If the orchardist will keep a close watch on the egg production of the red spider he may determine very closely as to future increase of the pest. As to whether the spiders are responsible for the dropping of the oranges, it would be hard to say, as the dropping has been as bad in orchards sprayed, as in those not sprayed.

* * *

Scutellista.—In orange orchards under a high state of cultivation there is some of the early hatch of the black scale that are now in the egg stage. Very frequently these scale are of small size, though fully developed. It is a matter of encouragement to note that a good per cent of this scale is attacked by the scutellista, although the work of the parasite is not as thorough and complete as in the months of August and September. Occasionally I find the scutellista attacking the scale before it gets into the egg stage, but it is rather an exception than a rule. It is encouraging to note the parasitizing of this late irregular hatch or scale, as otherwise there would be a considerable amount of young scale hatch out during the fore part of the winter, and, this would make future treatment of the scale difficult. Where the black scale all hatches out in mid-summer and early fall a single treatment is effectual, but with the scale in all stages of development the treatment is effectual only on the young scale and the orchard carries a stock of scale throughout the entire year. For this reason the scutellista is a great help in destroying a considerable portion of the late scale in the fall and fore part of winter. The pepper trees in and around Pasadena are now freer from black scale than for years, probably due in a large part, to the work of the parasite.

We are in hopes that an increased dosage of cyanide, made possible by an increase in the amount of water used, will enable fumigation to destroy the black scale in the advanced stages of development, if this should prove true, a single treatment by fumigation will be more effectual, even though a part of the scale are in an advanced stage.

* * *

Storm Water.—With the beginning of the rainy season steps should be taken to care for the storm water, and the measures taken should be ample to care for the maximum amount of rain fall that is possible in the case of heavy storms. First of all the soil of the orchard should be put in condition to absorb as much as possible of the rainfall and angling furrows should be struck to carry off the surplus without cutting and washing of the soil of the orchard. Very frequently a sag in the surface of the orchard will bring on accumulation of water that will cause severe cutting or channelling of the surface. Angling furrows will, in this case, take care of the surface water and prevent the cutting of gulleys. Of course the prime object is to put the soil in condition to absorb all the rainfall possible. but with bad treating and long continued rains the surface becomes parched and there will be a rapid run-off of the surplus water and the safest course is to provide for such an emergency. On heavy soils it is not a good policy to keep the surface too smooth and even during the rainy season. A cover crop is beneficial in checking a too rapid run-off of the rainfall and will aid in the preventing of severe washing.

THE THIRTY-FIRST FRUIT GROWERS' CONVENTION.

The next annual Fruit Growers' Convention, the Thirty-First, is announced to be held at Santa Rosa, opening on Tuesday morning, December 5th. From the names appearing on the programme it will be seen that the various topics of interest to fruit growers will be handled by some of the best talent in the State. The speakers include Governor Pardee, Prof. David Starr Jordan, Prof. Benjamin Ide Wheeler, Luther Burbank, Lieut. Governor Alden Anderson, J. A. Filcher and many others who are well known to all the people of the State. Two very important features will be an illustrated lecture on the weather and crops, by Prof. Alexander McAdie, Director of the Weather Bureau, and another by Prof. M. B. Waite, the pear blight expert, from Washington, also illustrated. The people of Santa Rosa are making every effort to make the visitors feel that they are welcome, and have arranged a reception and electric rides, besides trips in automobiles and carriages. The hotels have made special rates and the railroads will issue excursion tickets, enabling visitors from all parts of the State to attend at reduced rates.

By Dec. 1 the Los Angeles office of the Cultivator will be moved to 115 No. Broadway, (up stairs).

STABLE MANURES.

Except through the growing season or just previous to it, manure may be put upon the land straight from the cowshed or stable. During the growing season such dressing should be leached. For this, place a barrel or box upon a slightly tilting board, having grooves to drain from gimlet holes near the bottom of the receptacle to a bucket or barrel. For small quantities a leaky pail or wash boiler, or the like could be used instead of the barrel. Place in the receptacle a layer of broken crockery, shells or other organic matter, and upon this a six-inch layer of straw, hay or weeds and on this the manure. Pour water or house slop on the manure until the leach scarcely shows color then empty the receptacle or fork out what remains of the manure and use as a mulch. Or keep adding fresh stock to the barrel until it is filled, then in the autumn put the residue on the land. An occasional layer of wood ashes will give a welcome addition of potash. Dilute the drip according to its strength and apply to the ground about the plants.

The best time for the application is after a rain or during a light rainfall, the rootlets then being in the best condition to assimilate it and the ground to receive it. For salads, beets, turnips, rhubarb, cabbage or other varieties where leaf or root is desirable, add a spoonful of nitrate of soda to the bucketful of the drip. For beans, peas, corn, or seed production a handful of bone meal will help. For tomatoes, give both. The liquid will be taken up at once by the feeding roots, and very soon show in the plant growth. Best results are obtained from night soil and poultry droppings by the same treatment. Never use fresh manure as such in the garden, unless bacterial disorders of the plants are desired and weed seeds are wanted.

VALENCIA LATE

And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Glendora, Riverside or Redlands, as desired. Address

Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Stop! Listen!

Buy Orange Trees that are true to name. I do not own the largest nursery in the world, but can produce the best trees in the world, and can beat the world on prices, according to quality.

H. M. Cole Third House S. Hill Ave. Pasadena, California

Sunset Phone Main 450

THE OLD ESTABLISHED

WOODBRIDGE FERTILIZERS

ARE RELIABLE

THE WOODBRIDGE CHEMICAL WORKS

318 East First St.
Los Angeles, Cal.

South Pasadena San Bernardino

Gold Medal Trees

Our trees won Gold Medals at St. Louis, Buffalo Pan American and World's Fair at Chicago. Trees true to name. Strong and healthy in every way. We are ready to figure on any quantity and figure close for good stock.

San Dimas Citrus Nurseries

R. M. Teague, Prop.

San Dimas, California

Armstrong Nurseries

MANY GOOD THINGS

Of vital importance to all who contemplate planting citrus and deciduous fruit trees, economic forest trees (particularly eucalyptus) and other essentials for the orchard and garden enumerated in our NEW 1906 CATALOGUE, a copy of which is yours for a 2c stamp.

Armstrong Nurseries, Box 14, Ontario, Cal.

ORANGE TREES

Oldest Established Citrus Nursery in California, at Alhambra, Los Angeles County

Late Valencia and Washington Navels, Lisbon and Eureka Lemons. Guaranteed true to name. No better trees in this State. Lowest market price. Three-year buds, four-year roots. Horticultural Commissioner's certificate. Order early, as good trees are scarce. Inspection invited.

E. G. Wood, Owner, at Nursery or Room 732 Huntington Building, Los Angeles, Cal.

DRIED GROUND TANKAGE

THE BEST AND MOST ECONOMICAL FERTILIZER

ANALYSIS { 10½ per cent Ammonia
18 per cent Bone Phosphate

WRITE US FOR PRICES AND PARTICULARS

Western Meat Company - - San Francisco

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

SHRUB PRUNING.

Shrubs such as spireas, deutzias, Philadelphus, weigelia, etc., should not be pruned at this season of the year. It is a mistake made by a great many and should be remedied. When they flower in the spring, it is along the full extent of the branches, and if pruned at this season it takes away the graceful effect that is so essential to their beauty. The proper time to prune them is immediately after flowering which gives them a chance to make a good growth of flowering wood for another season.

A PRETTY SUCCULENT.

Rochea falcata is a native of Southern Africa, belonging to the order Crassulacea. The grayish leaves, together with the bright scarlet of its large panicle of flowers, makes it a very attractive plant, blooming as it does throughout the whole summer.

Take off a thick leaf, place it in sand, and you will soon notice that a small eye has formed, that ere long you will develop into a branch, and thus you gain a new plant.

PLANT LICE.

Fifty-eight persons competed to get the prize offered at Frankfort, Germany, for the best method of destroying plant lice. The winner's preparation is as follows: Quassia wood, two and one-half pounds, to be soaked overnight in ten quarts of water and well boiled, then strained through a cloth and placed, with 100 quarts of water ,in a petroleum barrel with five pounds of soft soap.

DAHLIA ROOTS.

Dahlia bulbs (so-called) will soon have to be taken up and stored away for next season. In this climate, it is not absolutely necessary, but is much better than to leave them in the ground, as they take up room that can be utilized for other flowers during the winter season. When taking them up cut the stalks down to within one foot of the ground and store away in some dry sand in the cellar or other dry place. It will be a step in the right direction to label them as to color and height, providing you have not the names of the different varieties, as they can then be planted next season with a better idea of harmonizing their colors and growth.

GRAFTING CACTI.

The best time for grafting Cacti is during the growing season. Epiphyllums are often grafted on Pereskia, but Cereus colubrinus is no doubt much better for the purpose, and C. grandiflorus and all that class are equally good. One of the most successful grafters of the Cacti we have in the West, uses C. grandiflorus entirely

when grafting cions of Epiphyllums and Cereus flagelliformis cristata.

The operation is an easy one. Cut a V shaped notch in the stock or split the stock and insert the wedge-shaped cion. Sometimes both are necessary, according to the size cion. Having fitted the parts as well as possible, run a sharp spine through both stock and cion and bind securely in place with twine or raffia, and nature will do the rest.

Some curious plants may be obtained in this way, particularly when Echinocacti or Mammillarias are grafted on the slender-growing Cere.

In arranging your garden, try to have it so there will be a succession of bloom.

NEEDS OF VILLAGE IMPROVEMENT ASSOCIATIONS.

1. Funds to considerable amount to serve as a nucleus for investment as well as for immediate use, should be secured before starting work.

2. Annual subscriptions should be obtained and when practicable pledged for some years ahead, to insure the permanence of the organization and the continuance of its work.

3. Endeavors should be made to interest all classes. Children might be permitted to set trees themselves under the direction of the association.

4. It is well to begin operations at some point in which the whole community is interested, such as the cemetery, or the public green or square. Avoid attempting to do too much at once.

5. To keep up the public interest in the association and to look after its work, it is important to have monthly meetings of the executive committee.

A HONEY-BEARING EUCALYPT.

Mr. James Brogan, of Attunga, Australia, in a plea for the preservation of "Yellow-box" (Eucalyptus melliodora) from the ringbarker, draws attention to especial value of this variety of timber tree for honey production. From his experience, the honey harvested by bees from any given area of "Yellow-box" is of greater monetary value than the wool that could be raised from the grass on the same area. There are 70 acres of this variety of tree on his own place, and in some seasons he has obtained more value in honey than if the area had been cropped with good wheat at a fair price.

As a useful timber "Yellow-box" lasts in the ground twice as long as ordinary box, and should be very valuable for mining purposes, as nearly every tree about would make lengths suitable for mining requirements.

HARDY ANNUALS.

Hardy annuals can be sown at any time and it will be a good plan to ask the seedsman when buying, as to the best varieties to sow at present. Sweet peas should be sown during the winter months, as they bloom much better and with larger flowers and better foliage, than if sown too late. Why not try some of the dwarf "Cupid" sweet peas, they can be brought in several colors and are very satisfactory.

If there is a low and unhealthy place upon your grounds, plant liberally of nasturtiums and sun flowers. It may save you a doctor's bill.

Do not plant begonias in a saturated soil, hot sunshine, or an arid atmosphere. Plant them where they will be sheltered from the wind, and also the sun during the hottest part of the day.

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN
HAS REMOVED TO
345 SOUTH MAIN STREET
WHERE IN LARGER PERMANENT QUARTERS HE WILL BE PLEASED TO SEE ALL HIS PATRONS

OUR NEW SWEET PEA
Helen Pierce

A beautiful novelty discovered and introduced by us this year. It is bright blue, mottled on white. This is the time to plant. Send us for a a sealed packet..... 25c
We have been extensive seed growers for many years and are now prepared to supply any one on the Pacific Coast with reliable Vegetable, Grass and Flower seeds at retail Our fine illustrated catalogue mailed free about Dec. 1st. Write for it.

C. C. MORSE & CO., Seed Growers
815-817 SANSOME STREET SAN FRANCISCO, CAL.

SECTION OF YEAR-OLD PLANT PHOTOGRAPHED IN THE FIELD

Buy Burbank's Rhubarb

This creation of California's plant wizard is practical for you in your garden. It's ever-bearing—(Winter, Summer, Fall and Spring.) Crimson flesh. Never stringy. Stalks small but juicy. Tender and luscious as a berry. Needs little sugar. Everything you've wanted rhubarb to be.

Roots **Northern Grown & Robust.** Three year's successful bearing in our trial grounds. Require but little water. Plant now and cut this season.

How to Cook the Rhubarb.—Since the Winter Crimson requires much less sugar than the ordinary varieties, a few suggestions as to how to cook it may be found useful. The color of the rhubarb before cooking is of a greenish crimson which, when cooked, turns into a rich, clear shade of crimson. Bake slowly in earthen dish, sprinkle lightly with sugar and just cover with water. For making jelly and preserves it is excellent, and its medicinal properties are fine.

Price prepaid, small roots 25c each, $2.50 dozen; larger roots 50c each, $5.00 dozen.

CHAS. H. LILLY CO.
Seattle Portland San Francisco

Mail this order TODAY before supply of these roots is exhausted.

CHAS. H. LILLY CO. SEATTLE, WASH.

Enclosed is $..... (in money order, draft, stamps) for which send me (prepaid) .....large, ...small BURBANK'S RHUBARB ROOTS. Please send me free, (postpaid) your Plant and Seed Catalog.

NAME .....

ADDRESS .....

Lilly's Puget Sound Seeds and Plants are grown for this climate

CRIMSON WINTER RHUBARB BEARS WHEN ALL OTHER VARIETIES ARE DORMANT

In the Vegetable Garden

MILDEW OR BLIGHT OF POTATOES.

In 1902 the Connecticult Experimental Station began a series of spraying experiments with potatoes to determine the amount of injury due to Phytophthora infestans, and, secondly, to determine the most effective and practical method of spraying to prevent it. In this report is presented the results and suggestions based upon the experiments thus far carried out.

While the blight fungus is one of the most serious pests of the potato in Connecticut, the author states that frequently injuries caused by other organisms are attributed to it. The results obtained in spraying with Bordeaux mixture vary with different seasons, but depend largely on the thoroughness of the treatment and their applications at the proper time. Increased yields due to spraying, varying from almost nothing to over 100 per cent., are noted; to be economically profitable the author says that an average gain of 15 to 20 per cent. should be obtained.

Where late potatoes are sprayed for the blight the author advocates 2 to 4 thorough applications of Bordeaux mixture, the first to be made between July 5 and 15 and the last about the end of August or first of September.

IRRIGATION FOR ONIONS.

Mr. Frank Bond, of the Irrigation Investigations Division of the United States Department of Agriculture, in discussing the crops in ordinary districts that can be greatly benefitted by small and inexpensive systems of irrigation, instances the case of onions grown in the South of Georgia. In that district, when there are opportune rains in May and June to mature the crop, the average yield is about 800 bushels of onions per acre, worth one dollar a bushel. During May and June of the years 1901 and 1902 the necessary rains did not come, and complete loss of crop followed, the plants withering away in the dry and shrivelling heat. In the opinion of Mr. Bond, one good irrigation each year would have saved the crop and made the returns maximum in quantity and irreproachable in quality—measured from an onion standpoint.

MUSHROOM GROWING FOR AMATEURS.

Experiments were undertaken at Cornell University, in the culture of mushrooms to learn what success might be expected by amateur growers where no elaborate preparations were made as to special houses.

Cellars or basement rooms may be used for mushroom culture in winter provided the temperature does not go below 55 degrees F. They should not be grown in cellars under the living part of a house, as the fumes of manure will fill the house. They can be grown in stables which are not too cold.

In the station experiments they were grown in part in boxes under benches in the greenhouse where the temperature during the winter was about 55 degrees F. at night and 60 to 65 degrees F. during the day, and in part under a bench in a basement. The boxes used were 3x3.5 feet wide and 1 foot deep. The bed under the bench in the basement was made by placing a plank against the legs of the bench and filling the space between that and the wall with well-packed manure. The boxes and bed together contained about 90 square feet of surface and yielded at the rate of about 2 pounds of mushrooms per square foot. The manure for boxes and bed was composted October 31 and was ready for putting in the beds November 9.

The beds were spawned November 23 and covered over with dirt December 1 and 2. The first mushrooms were picked January 1, or about 5 weeks from the time the beds were spawned. The regular picking began a week later. The spawn in a small part of the bed did not produce mushrooms until about 2 months after spawning. When the crop was at its best 4 to 8 pounds of mushrooms were collected at each picking.

Detailed directions are given for the making of mushrooom beds in cellars, for the preparation of the manure and packing into the beds, and for the buying and insertion of the spawn in the prepared beds, with general notes on the growth of mushrooms, picking mushrooms, and the enemies affecting mushrooms. Illustrations are given of the varieties Alaska, Columbia, and Bohemia, as grown under the different conditions in the experiment.

VALUE OF BEAN STRAW.

Bean straw, the lowly empty pod of the lima, and the vine, despised and abused and csnsidered in the way for years, has come into a prominence of its own, and it is now no small part of the bean crop. This year the limas produced also a ton to the acre of bean straw. This is baled and cared for now as something of value. It has grown to be so much appreciated that it brings $5 the ton on the ranch to the farmers. And there is ready sale for all the bean straw raised and more is wanted. Clear bean straw makes the best possible feed for milch cattle. Mixed with beet pulp it is the finest of fatteners for stock cattle, and taken all in all, nothing can equal it for all-round stock feed. Horses relish it and will not starve to death upon it, as was once thought they might.

There will be sale for every ton of bean straw grown this year and much more would find takers before the next bean season comes around. Bean straw makes rich milk and plenty of it and this means good butter. From getting to be something in the way and only fit for burning or putting on the roads, bean straw has grown to be an actual necessity to the farmers.

There are few joys that are sweeter, and no service that is more beautiful, than to forgive those who have offended.

LADY THOMPSON AND EXCELSIOR STRAWBERRY PLANTS
For Sale, or will exchange for Brandywines, Glen Marys, William Belts.
E. M. BOGER REDLANDS, CAL.

BRANDYWINE "A 1" STRAWBERRIES

250,000
Strong Growing, Thrifty Plants for sale. Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.
Frank P. Baldosser,
Covina, Cal.

CRIMSON WINTER RHUBARB Selected seed $12 per pound o $1.00 per oz. J. DENT, R. D. NO. 1, VENTURA, CAL.

Strawberry Plants
200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address
F. S. Lee, Pasadena, Cal. Phone Main 922

LAXTON'S NOBLE STRAWBERRY PLANTS
400,000 First-Class Plants. Prices on application
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

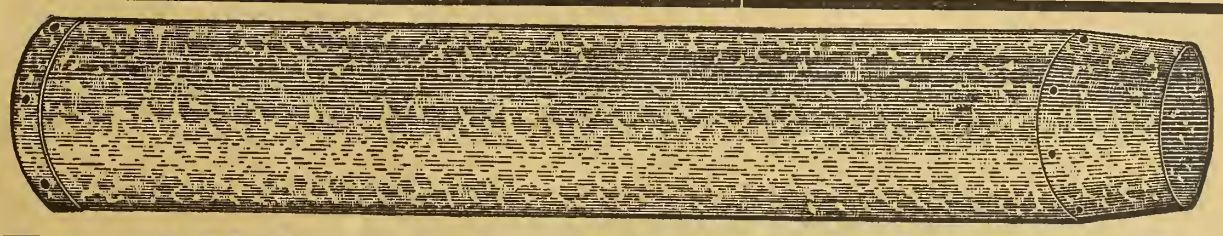
Berry Vines
Logan, Burbank's Mammoth Black, Phenomenal. Prices on application
Isaac Martin Merle, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

STRAWBERRY PLANTS
(TROPICO BEAUTY)
The very best Brandywine stock at low prices for sale by the grower,
D. Griswold, Box 25, Tropico, Cal.

SELECTED
Strawberry Plants
"A 1" and Kellogg's Brandywine
Grown from Eastern Stock
$5.00 net per crate for all berries shipped to J. R. Newberry Co. last week. Does that look good to you? Of the 500,000 advertised last week, 250,000 are sold.
TERMS:
A1's, - - $4.00 per 1000
Brandywines 3.00 " "
Cash with order.
E. E. LEECH, IRWINDALE, CAL.

Greatest National Bank West of Denver and South of San Francisco
First National Bank
United States Depository for Government Funds
CAPITAL, SURPLUS AND UNDIVIDED PROFITS, OVER $4,000,000.
DEPOSITS, $13,500,000. TOTAL RESOURCES, $18,000,000.
We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.
PRESIDENT—J. M ELLIOTT.
VICE-PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS
CASHIER—W. T. S. HAMMOND.
First National Bank
Los Angeles, California



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE.
TALLERDAY MANUFACTURING CO.
PHONE: ALHAMBRA 301 DOLGEVILLE, CAL., the Manufacturing Suburb of Los Angeles
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line. $1.12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1¼ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to 10	Lines	15 cents	per line
11 " 50	"	14 "	" "
51 " 100	"	13 "	" "
101 " 500	"	12 "	" "
501 " 1000	"	11 "	" "
1001 " 1500	"	10 "	" "
1501 " 2000	"	09 "	" "

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 24, 1905

CONTENTS.

	Page.
Hardpan in Tulare County	483
Smudging For Thrips	484
Tokay Grape Shipments	484
Dates in Fresno County	484
Time to Prune Peaches	486
Peanut Culture	486
Citrus Orchard Conditions	487
Honey-Bearing Eucalypt	488
Mildew of Potatoes	489
Editorial	490
Coast News Notes	491
Product of the Herd	492
Paying off a Debt	492
Grain and Alfalfa For Hogs	493
Profit Feeding Steers	493
Veterinary	494
Operating an Incubator	495
Poultry Queries	496
Eucalyptus Posts	498
Queries and Suggestions	499
Household	500-01
Markets	502-3

Educated Citizenship.—Vice President Fairbanks repeated the lesson of the Golden Rule in his address at Indianapolis on Sunday last, where in he declared with great earnestness that "Our safety lies in an educated citizenship. The best interests of labor are to be conserved through the instrumentality of the schoolhouse. There is no better code by which to live than the Golden Rule. It has been the guide of millions in ages past, and it will continue to guide the conduct of millions yet to be.

"If you can do no kindly act to your brother, act not at all. I am a firm believer that as a people we are growing in greatness and expanding in all the ways that make for better men and better women, for better homes, for a better city, a better state and a better country."

These are inspiring sentiments to fall from the lips of the second citizen of the Republic. In these days of graft and treachery in high places the country will do well to give heed to the injunction proclaimed in the doctrine set forth in the Golden Rule.

* * *

Thanksgiving Proclamation.—The President's proclamation setting apart November 30 as a day of thanksgiving is something quite aside from the usual run of these documents. Not only does the President abandon the customary phraseology, but he goes back of the form to revive the original meaning and purpose of the day. Just as after his critics had all agreed that he was dangerously devoted to bloodshed and in love with war he appeared as an international peacemaker, so now after being long pictured as a lover of vainglory he earnestly reminds the people that they are called not only to thankfulness, but to an acknowledgment of shortcomings.

"We live in easier and more plentiful times than our forefathers," the proclamation declares "and yet the dangers of our national life are quite as great now as at any previous time in our history. It is eminently fitting that once a year our people should set aside a day for praise and thanksgiving—manfully acknowledge their shortcomings and pledge themselves solemnly and in good faith to strive to overcome them."

This is certainly most wholesome doctrine, but it would puzzle the most serene and contemplative to find anything of the swaskbuckler in it. The man who wrote that certainly did not lean back to stretch his legs complacently and pat his thigh. That utterance does not smack of after-dinner materialism in the slightest degree.

But perhaps thoroughly vigilant critics may find in the proclamation some evidence of the militant spirit they are ever ready to deplore. There is, indeed, an allusion to war and struggle and enemies to overcome. "The foes from whom we should pray to be delivered are our own passions, appetites and follies; and against these there is always need that we should war."

President Roosevelt is indeed what the Germans call a many-sided man. The Thanksgiving proclamation reveals one of the least suspected but most admirable and worthy.

The President is a man for peace as well as war—for the day of thanksgiving and humility as well of victory.

* * *

The Joy of Thankfulness.—Out here in California, where the glad sunshine and the glorious rains conspire to make nature one long, sweet day of thankfulness, we ought to rejoice that we live to witness the fact that there is sunshine in the world and that it is for us if we accept it, and for our happiness if we will it. In spite of all the grumbling of the pessimists, the disappointed, the nature born weaklings, it is usually good to live. It is a glorious thing to be here, and to be a part of the grand economy of the universe where, as we may realize, if we will, the joy of being thankful for blessings showered on us.

There is joy in being thankful. The soul which can attune itself to the harmony of blessings, carries with it the highest condition of human happiness. The soul with face ever turned toward the light of God's eternal love is full of thanksgiving and rejoicing. It comes to see the beauty and gladness of the world.

If we could bring ourselves to realize that heaven is here just as much as it is anywhere, that by duty well done, always faithfully performed, we open the door to the highest pleasure it is possible to attain here or hereafter, life would be one continued song, for work would be but recreation and the temporal things of this world merely a pastime for our energies. For, after all, we are but embodied spirits, with just as much power to do good, to be good and to be happy, as we ever shall be—even after we lay down the mortal body and become immortal.

I know a dear old lady 75 years young, yes, young, who in the last 25 years of her life lived in continued rapport with the good and the beautiful. Whose face was ever turned toward the sunlight of truth, who saw beauty in everything, and opportunity to bless her fellow beings, in smile, in word, indeed wherever she went. Every flower to her was a poem. Every star an emanation of divine love. Every sun-kissed dew drop a benediction from her heavenly father in whose radience she basked and grew younger as the years sped by. She seemed always to carry with her the remembrance that out of the loving cup of God's abundant graces there was enough for her—for all. She knew that it was better to love than to preach; better to lead people into the true way than to drive them; better to sympathize than to complain. Sadness found no receptacle in her soul, and the magnetism of her smile held old and young her willing auditors—because it was the smile of love.

I stood by her casket, the same glad smile as in olden days lingered around her lips. The same kind expression wreathed her face as of yore, and there was in the close of her mortal career something which seemed to say, "I am at home in my father's care." Her's was the true understanding of life, the gladdest life in the world. Her's was the realization of a soul that had gained joy and knowledge by living near to the infinite heart of the great teacher.

So may we all live, if we will, so may we all pass away, with our eyes filled with light and our face covered with smiles, because of the absolute confidence that the life we lay down here is but the beginning of that other one—the one replete with eternal energy.

So on Thanksgiving day let us be happy. Glad for the blessings which the year has brought us; glad that we live, and with Ruth Raymund say:

Accept our thanks, O Father, Lord,
For all the harvest riches stored,
For raiment fair, for frugal food,
For pleasant homes and all that's good.
And Father, God, accept, we pray
Upon this glad Thanksgiving day,
Our thanks for friends who loved us more
This passing year than ere before:
Who proved their love when troubles came,
And joy for use seemed but a name.
With words of cheer and timely aid
They bade us "rise, be not afraid."
So on this festal day of Thine
We thank Thee, Lord, for love divine.

By Dec. 1 the Los Angeles office of the Cultivator will be moved to 115 No. Broadway, (up stairs).

They Will Not Learn.—It seems as if the Russion people will never learn the value of experience. They are as blind today to the lessons of the past as they appear to be of the fate in store for them in the future.

There is no well defined patriotic sentiment among the people. There is a determined effort to crush the autocracy, but between the various factions which exist there is no concert of action. The various groups into which the liberals are splitting and even those who advocate the very constitutionalism into which Count Witte is seeking to conduct the government, seemingly would rather let the country drift into anarchy, than turn to the support of the only man who has the good of the country at heart. This perhaps is not strange, considering that all the intelligent classes are engaged in a revolt against the old order of things, the Moderates for the moment clasping hands with the ultra-revolutionists to accomplish the downfall of the autocracy. The result is that all the reform elements are distrustful of the government, and take pride in holding aloof as if everybody connected with the government was contaminated, and there is no solid Conservative element to use as a brake upon those who shrink from no political experiments, no matter how reckless.

The situation may be summed up in this sentence: Russia is determined to pay the heaviest price possible for every step of progress she takes.

* * *

Those Wall Street Gamblers.—Secretary Shaw's refusal to come to the relief of Wall Street operators, last week, has opened their eyes to the fact that they cannot use the Secretary of the Treasury to liquidate their plunging deals.

In this decision Mr. Shaw was supported by the banking element of Wall street. To several bankers with whom he conversed the Secretary of the Treasury emphatically expressed the opinion that the situation did not call for any measures of redress. To those with whom he discussed the situation personally he said that there was ample money for the business and commercial world, and those who needed money had no difficulty in obtaining it.

The merchants and manufacturing classes and others who are engaged in trade, he argued, found little difficulty in having their bills discounted at the banks here and in other centers of population. With those who needed funds for speculative purposes in the stock market, Shaw expressed little sympathy. He said that warning had been given in ample time, and that the stringency which now prevailed was directly traceable to the operations of Wall Street cliques who had borrowed money for speculative purposes.

* * *

Bankers who discussed the situation with the Secretary stated that his views of the money market and his plans were summed up in the following allegorical statement: "If I see boys playing with matches and they burn themselves, I can merely look on and hope that a salutory lesson has been taught them. If, however, the boys in playing with matches start a fire which threatens the house and its contents, I will do all in my power to put the fire out, before serious damage is done."

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

It is now past the middle of November, and still Gilroy growers are making almost daily shipments of strawberries, large in size and fine in flavor.

The apple crop of Pajaro valley is a heavy one this year, but prices are low. Rushing too much green fruit on the market early in the season is the reason assigned for low prices.

The Crafton Orange Growers' Association has been organized and is ready for business. The packing house is almost completed. Its brand will be Crafton for fancy, and Mill Creek for choice.

There is a great future for the wine grape, as well as for the Tokay variety, in the foothill districts of Placer county, according to a statment made yesterday by Prof. H. S. Hussman of Washington.

Many tons of good apples will leave the orchards of upper Tule this month, and many more would leave if a remedy could be found for codling moths. Fully half the apples are ruined by moths.

The Whittier Citrus Association shipped its first carload of navel oranges last week, ten days later than the first shipment last year, but the fruit is nicely colored and is considered to be superior to any other first shipment for a number of years.

Grapes continue to sell well in the Eastern markets. A carload in Chicago yesterday fetched $1267; Pittsburg, $1260; Philadelphia $1472; New York, $1876. There is a steady demand for Emperors, but Tokays and Cornichons still hold their own in the prices.

For the week ending November 11, six carloads of tomatoes, onions, peas and beans were shipped from Whittier to Los Angeles over the line of the Pacific Electric Railway alone, in addition to 2000 crates of tomatoes which were billed directly to Eastern markets.

New York, Boston and Chicago continue to ask for carloads of California grapes. Other cities would welcome shipments, but the supply appears to be limited, the clean-up of the product of the entire crop being complete, thanks to the excellent fruit gathering weather that has prevailed this autumn.

The raisin crop of 1905 in the El Cajon district is about all packed and is probably the smallest in the history of the industry. The amount packed by the El Cajon Raisin Company, which handles practically all the output, was only about 200 tons, as against an average for other years of 1000 tons.

The California Vegetable Union which has been buying the La Habra and East Whittier output of tomatoes, has raised its purchasing price from $30 to $40 a ton. The crop still holds out well and the increase will mean thousands of dollars to the growers. It is estimated that there will be a total crop of 1500 tons this year.

George C. Hussman, pomologist in charge of viticultural investigations of the Department of Agriculture, and G. H. Hecke, expert in viticulture, Department of Agriculture, were in Sacramento yesterday and went to Auburn on an evening train in connection with the experimental vineyard which it is proposed to locate in the foothills near that city. In case a tract is secured that is entirely satisfactory and the owner undertakes to carry out the requirements of the department the station wil be established at an early date.

A representative of the Cultivator recently making the rounds of our best southern orange growing districts, found that is some sections of Riverside and San Bernardino counties, split oranges are very common. A grower from near Highland writes to say that his loss from splits will run to five per cent. of the crop. In that district the trouble is generally attributed to drying winds which somewhat seal the rind and then the subsequent development of the fruit causes the rind to split by reason of the interior pressure.

C. A. Harwood, a prominent rancher of Long Valley, Nev., has perfected a hybrid melon which is pronounced by the agricultural department of the university to be a cross between a watermelon and a muskmelon, having the rind of the former and the seeds of the latter. The peculiar property of the fruit is that it will keep from one season to another remaining perfectly sound and maintaining its flavor as well as apples. The fruit grows to an immense size, some of the specimens weighing as much as thirty pounds.

Orange picking and packing has begun in the Redlands district. Some growers seem to possess a desire to get their fruit on the market early, whether its condition will warrant it or not. The fruit being picked is not an early variety, but the regular navel orange. The greater part of the fruit scarcely shows a tinge of color, and is practically devoid of juice. Letters from eastern houses asking for early shipments express their dissatisfaction at receiving oranges which have been "doctored" to give the deep yellow color, to say nothing of flavor or sweetness. This "doctoring" is said to be going on in Redlands; some of the first oranges gathered, being steamed to give the deep color before shipment.

AGRICULTURE.

The bean crop of the Goleta district is estimated between 8000 and 10,000 sacks.

The California Vegetable Union began shipping cabbage from El Monte last week.

The express shipments for the week from Escondido station were 900 dozen eggs, 500 pounds butter, 680 pounds cream, and 2107 pounds chickens.

J. W. Hall called a meeting of hop growers together in Supervisor's Hall in the Court House at Santa Rosa, and a temporary organization of the Sonoma County Hop Growers' Exchange was effected.

Up to last Saturday applications for 1906 beet contracts had reached the sugar company at Chino, covering a total of over 6000 acres. Manager Schroeder says that no effort has been made this year to get the applications in early, and that a large acreage is in sight.

An inexpensive plan of beautifying the hills is to be put into practice on the hills surrounding Whittier. Every one who goes for a stroll on the hills is to scatter poppy seeds. This will soon give Whittier poppy fields which, from their location on the hillside will rival those of the valley.

The hop growers of Sonoma county held a meeting at Santa Rosa Saturday and took steps toward organizing a hop growers association to be known as the Sonoma County Hop Growers' Exchange. The object and purpose of the growers is to cut out the middle men and thus get the full market price for their products.

Manager J. A. Driffill of the Oxnard factory informs the beet growers that the new schedule of prices for the 1906 crop of beets is proving very satisfactory to the farmers of the valley and that new contracts are being signed up rapidly and that present indications point to a very large acreage of beets for next summer's campaign.

An immense sugar plant will be erected within a short time for the Pacific Beet Sugar Company, says J. G. Hamilton, of the American Beet Sugar Co. The location of the new plant is to be at Chico, in the northern part of the State, and it is possible that a second one may be erected in the San Joaquin valley.

A large wheat grower of Washington claims a combine of the Washington millers and the exporters of the northwest to hold down wheat prices. He urged the farmers to pool their interests and offer their heavy wheat to the San Francisco buyers in cargo lots, thus securing better prices and defeating the alleged agreement in Washington.

Besides being a prolific season for the bean ranchers, the past year has been a peculiar one. Not only was the crop of limas a record one, but the price has been good and firm and constantly on the rise. The estimated yield has been more than 650,000 sacks. The greatest yield in any previous year was, in round numbers, a half million bags.

Conrad Graf of Banning, stated to us recently that there were raised between Banning and Beaumont the past season 65,000 sacks of grain and that the season was a very prosperous one in fruit and agricultural lines. From two acres of almonds that were set out in 1891, he sold $480 worth of nuts. From five acres of French prunes, seven-year-old trees, he received $915. He further informed us that a company was being formed to take over the water system at that place with the intention of developing the supply to its fullest extent and placing under irrigation several thousand acres of ground in that valley.

Notice has been posted in the local United States Commissioner's office at Covelo, that the relinquishment portion of the Round valley Indian reservation will be opened to settlement January 15, 1906. There are 66,000 acres in this tract and it is mostly grazing land, but has some very choice timber. Settlers who were living on the land January, 1904, will have priority right in filing. In addition to the above what is known as the Buck Mountain survey comprising about fifteen thousand acres, will be put on the market about March 1. W. J. Lightfoot, a special examiner from the Interior Department, has just approved this action.

LIVE STOCK.

There are 2000 poultry yards and 600 dairies in Los Angeles county.

Don't feed smutty fodder. It will have a bad effect upon the ewes, as well as greatly reduce the per cent of strong healthy lambs.

Dressed turkeys are being shipped by carloads from the Waco, Texas, to California Prices have advanced there to 11 and 12 cents per pound.

A firm from Carlsbad, San Diego county, have been traveling through the Westminster county to contract for the purchase of 300 cases of eggs —10,000 in all. They say they will hatch this number in a monster incubator.

Texas is now shipping turkeys in carload lots to California. That is one of the commodities that California farmers should not allow to be shipped in. There is money in turkey raising, and California farmers ought to have it

The Santa Clara Valley Poultry Association held an important meeting last week in the Chamber of Commerce. The meeting was held for the purpose of re-organization and to stimulate an interest among poultry raisers of that county.

The Chino Land and Water Co. now has about 2400 head of cattle on the ranch, with more coming. The 1325 head received last week from Utah were shipped over the Salt Lake road, and were the first through shipment of cattle over the road. The service was excellent, as high as 60 miles per hour being made by the train.

Wm. Bewg of Lompoc was in our office one day this week looking for addresses of breeders of Poland China hogs, as he wanted to buy some good stock. Mr. Bewg stated that his ranch had recently sent eight cars of fat short horn steers to Los Angeles, receiving 3 1-4 cents per pound for them. This price was much lower than he received a year ago. He stated that his company will go into sheep heavier in the future, that the demand for mutton is greater than the supply and the price of wool being 15 cents made sheep raising an attractive proposition.

MISCELLANEOUS.

Pasadena is preparing for its annual rose carnival on January 1.

A tan bark oak near Willitts recently cut, made seven cords of wood, and was eight feet in diameter of trunk.

LINERS

FRUIT GROWERS, ATTENTION.—USE Griffith's Smudge Fuel. Don't let your fruit freeze when you can be protected by using Griffith's Smudge Fuel. Stoves, 50c each; 20 stoves per acre, stoves good for ten years. Fuel $8 per ton; 16 lbs. to the stove lasts four hours. Address, 1023 So. Broadway, Los Angeles.

C. H. SESSIONS, ASSOCIATE EDITOR

THE PRODUCT OF THE HERD.

In reply to the question as to product in cash of the old herd being over fifty dollars net for butter alone, Yes! that was correct. The herd consisted of cows of all ages but had been carefully worked up, with the Babcock test, and weeded out for two years, and was also being tested monthly during the entire seven years. Each cow was charged $6.00 a year for pasture and $1.00 for repairs on barns and fences. The barley, corn, silage and mill feeds were charged up to them, the wages of milkers, feeders, buttermaker, and the time of three horses and the men that sold the butter in town, as the engine pumps the water for the ranch houses and stables and flowers, the cows paid only half the expense of fuel and repairs in the engine house. The only item that might have been added was interest on money invested, that might have been charged to them. The butter sold for fifty cents per roll of one and three-quarter pounds. The best cow made from six hundred and twelve to six hundred and thirty-seven pounds yearly, twenty others averaged over five hundred pounds each. The best cows when fresh received heavy rations of 45 pounds of grain a day down to none as they ceased to pay for their feed. All the cows received at all times was alfalfa hay and silage of either corn or alfalfa. If the silage gave out and there were no pumpkins for succulency the cows fell off rapidly in milk.

In addition to the butter produced there was a valuable herd of calves that sold readily as yearlings at thirty dollars a head. The pigs also returned some cash, though during the year usually one a week is for butchering as well as one veal, for the men's table, the rest of the time beef was used, often one of the two-year-old steers raised at home. About six hundred dollars worth of pigs and hogs were turned off to the butcher, of course, these while receiving the skim milk, also received the cull fruit from the packing house as well as the raisin waste and olive pulp. The manure from the herd heavily covered 160 acres of the vineyards and orchards. Lest you think this can not be done with good cows in California by other people, I will tell you of one man, where I could fill the Cultivator with the accounts that I know to be true of like successes of many others. On the table under date of Nov. 13, 1905, is a letter that ends with these words: "Just got check for last month for cream from 25 cows of $176.32. Who says cows are not all right?" This is from a man who started with almost nothing, on rented land without proper improvements, and bought these same cows by note paying half the cream check each month on the note. He is now preparing to buy the land after paying for the cows and supporting his family during the time in comfort. In California if a man is willing to work and willing to be honest he has no difficulty in getting a start.

If my questioner is from the East, I would say the basis of this result is alfalfa, the best milk making food ever grown and when balanced with corn silage, the cheapest that can be fed to dairy stock.—Minna E. Sherman.

PAYING OFF A DEBT

To save moving in quest of a suitble location five years ago, we went into debt $3500 entirely for our farm of 70 acres as well as for nearly all the cows, horses, and farm implements with which to begin work and even for feed to carry our stock through the approaching winter. It was rather a large undertaking to face such a debt, says Mrs. Lamoni in Farm-Home.

We had a retail butter route all ready to step into, otherwise we would have scarcely made the venture.. We have really never suffered for want of financial aid, perhaps because we have made it our business to discharge our obligations at the time agreed on, and so kept our credit good.

We bought a sufficient number of Jersey cows to supply our trade, getting most of them from dairymen who were going out of business. We put in a cream separator and modern butter making appliances. Abortion got into the herd and caused much trouble, but keeping the cows clean and disinfecting the premises with lime and carbolic acid caused it to die out after some months.

We lost two cows from milk fever the first winter. They were allowed to get too fat before calving, but it taught us a lesson in the care of cows. Our cow barn is a very ordinary affair, but by the use of whitewash, cement gutters behind the cows and daily cleaning, we keep it in a fairly sanitary condition. With building paper along the inside walls and other aids we manage to keep the cows comfortable during the winter.

At the end of the first year we built a stave silo just outside the barn and the cows are now fed silage from No

TUBULAR
Starts Fortune
If you had a gold mine would you waste half the gold? Dairies are surer than gold mines, yet farmers without separators only half skim their milk. Tubular butter is worth 25 to 35 cents. Cream is worth one cent fed to stock. Are you wasting cream?
Sharples TUBULAR CREAM SEPARATORS
Like a Crowbar
Tubulars are regular crowbars—get right under the trouble. Get the cream—raise the quantity of butter—start a fortune for the owner. Write for catalog U 260
THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd Also Black Minorca chicken eggs in season. Stock for sale, also bred sows W. R McCASLIN & SON. Walsh Station, Sacramento County, Cal.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal

Thoroughbred Poland China Swine and Black Minorca and Barred Rock Poultry
High grade stock of best strains Young stock for sale. M. BASSETT, HANFORD, CAL.

The Worm Pest.
Hogs will begin to cough, drag hind parts, go off their feed, and do no good if wormy. Horses no better. Use Security Worm Powder. Guaranteed. Dealers everywhere.
Security Stock Food Co. Minneapolis, Minn.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory.
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.

When writing advertisers mention Cultivator.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. W. C. MARBLE, Secretary. J. E. FISHBURN
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DE LAVAL SEPARATORS
AND OUR LINE OF DAIRY AND CREAMERY MACHINERY
are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

THE IMPROVED
U. S. CREAM SEPARATOR
WINS
GOLD MEDAL
The Highest Award
at the Lewis and Clark Exposition at Portland, Oregon. At the Pan-American Exposition in 1901, The U. S. Separator established and continues to hold the
WORLD'S RECORD
For Clean Skimming
As there was no skimming contest at the St. Louis Exposition last year, the U. S. Separator continues to maintain undisputed right to the title of the best machine of its kind.
These facts concern every cow owner who is in the market for a cream separator. To all such our free catalogue telling all about the U. S Separator should be equally interesting. A copy is free for the asking. Address
VERMONT FARM MACH'NE CO., Bellows Falls, Vt.
13 centrally located distributing warehouses throughout the United States and Canada 424

Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

vember to May. Silage with clover hay, corn stover and bran make up the winter ration. All the feed, except the bran, is grown upon the farm. No grain is sold except wheat. We give salt daily and bed with wheat straw. We feed a little bran or corn at milking time all through the summer. When corn begins to get short in July we finish out with clover hay and grain until second crop clover is ready and green corn. We shall put up a small silo and fill with corn for summer feeding.

We have always kept a registered Jersey bull and saved the heifer calves from our best cows. Two-thirds of the present herd are young heifers of our own raising. What skim milk the caves do not require is fed to pigs, which also get the buttermilk. We aim to raise from 25 to 35 pigs twice a year. We have a weight scale hanging in the barn, also a sheet of paper and pencil, and the milk of each cow is weighed and set down each milking.

The cows are frequently tested for percentage of butter fat. The first year's record could hardly be called a fair test. The second year the cows averaged 250 lbs of butter, the third year 290 lbs, and the past year 300 lbs, with four heifers in the herd.

GRAIN AND ALFALFA FOR HOGS.

In pasturing hogs on alfalfa, we find it advisable to provide a rather large run so that the stand will not be damaged by close pasturage or rooting. The number that can be fed on an acre will depend, of course upon the luxuriance of the growth and the amount of grain fed in addition to the alfalfa.

With an average crop, supposing grain to be fed liberally, it would not be advisable to pasture more than 20 shoats to the acre. In our experiments we have found that a liberal use of grain in connection with alfalfa pasture is cheaper than a small quantity of grain and very much cheaper than no grain on pasture.

Alfalfa can be cut and fed green to pigs and they no doubt relish it more when supplied in this way. In putting up alfalfa for feeding hogs it is decidedly advantageous to use the last cutting, which has a finer stem and correspondingly more leaf. This can be utilized by pigs with very much less waste. If hogs are given a fairly well balanced ration, and charcoal and ashes now and then, they will need no condiments of any sort.

A gain of three or four pounds a day on a hog is physically impossible. If a farmer reports such a gain as this, one may be assured that it is for a very short period and that a large part of this gain is "fill" when the last weighing was made. Two pounds a day is an extraordinary gain and most hogs even when well fed, gain not more than 1 or 1½ pounds per day.—Prof. H. R. Smith, Neb. Exper. Sta.

AGE OF PROFIT FEEDING STEERS.

It requires about one-half as much grain to produce 100 lbs of gain on calves as on two-year-olds. The work of the Missouri agricultural college has demonstrated that the most profitable age to fatten cattle is while they are still young. The older the animal the more food is required to produce a given gain. Other stations have also investigated this question and have arrived at the same result.

The Central experiment station farm of Canada found by comparing 1000 lbs live weight in the case of calves, yearlings, two and three-year-olds, that the profit for each 1000 lbs was: calves, $31; yearlings, $27; two-year-olds, $19.10; three-year-olds, $12.80. When all of the cattle of all ages were purchased at 4c per lb and sold fat at 5c per lb, the profit on $1000 invested in feeding cattle was: Calves, $557.50; yearlings, $284; two-year-olds, $198.75; three-year-olds, $177.50.

Nine-tenths of all the cattle fed in the middle west are two-year-olds at the beginning of the feeding period. When these cattle are in thin condition at the beginning they are often fed with profit. But starting with calves in the same condition it is unquestionably true that they return more profit for each $1000 invested than the older cattle.—F. B. Mumford, University of Mo.

FEEDING YOUNG CALVES.

Keep the little calves warm and dry; at any rate keep them dry. Calves cannot thrive in a dirty, wet pen. Get them to eating middlings as soon as you can, and you will not be so troubled with scours. Skim milk at a temperature of 100 degrees, well cured clover hay and a little mixed grain feed will raise fine calves.

For my pure bred calves I prefer a mixture of one-third middlings, one-third finely ground corn meal and one-third whole oats. A heaping teaspoonful of blood meal stirred in each feed of skim milk will prevent scours. Give the little calves new milk the first two weeks; then gradually add skim milk till at four weeks you have made the change. At four weeks a calf should eat hay and meal, and have the stomach in good working order. Look sharp to the temperature of the skim milk, use clean pails only for feeding, and don't over feed.—M. H. Gardner, Walworth Co., Wis.

FINE SHOWING.

A bulletin of the United States Department of Agriculture gives the value of the shipments of dairy products to Alaska, the Hawaiian Islands and the Philippines for the year ending June 30, 1904, as follows:

Alaska	$270,187
Hawaii	217,850
Philippines	134,549

The value of the butter shipped was as follows:

Alaska	$454,736
Hawaii	99,396
Philippines	10

The value of the shipments of cheese was as follows:

Alaska	$25,574
Hawaii	28,768
Philippines	793

The value of milk (condensed) shipped was as follows:

Alaska	$158,975
Hawaii	89,686
Philippines	133,746

FEEDING SUGGESTIONS.

Alfalfa hay is fine for young calves.

Feed the cows after milking and you will avoid the disagreeable odor from the feed.

Feed sugar beets and beet tops carefully, or they will cause milk to have a peculiar odor.

Hogs getting nothing but corn if given some cowpea hay will do much better than when they are fed corn alone.

It is unnecessary to grind grain for healthy horses having good teeth. It may be well to feed ground grain at noon to hard worked horses that have only a short time to eat.

OATS VERSUS BARLEY.

Editor Cultivator: Will you tell me the relative value of oats and barley for feeding. It is claimed by some that oats have greater nutriment than barley.—L. B. C., Los Gatos.

The official report of the United States Department of Agriculture covering the last ten years, reveals the following figures:

	Bushels per acre.	Pounds per acre.
Barley	25.0	1200
Oats	29.2	930
Difference		270

This gives barley an advantage over oats of 270 pounds per acre, no mean advantage in itself, but this is not the whole difference.

Digestion experiments show that 75 per cent. of the nutrients in barley are digestible, whereas, only 60 per cent. of the oat nutrients are digestible. Calculating for digestible nutrients per acre the result may be expressed in the following table:

	Digestible nutrients per acre pounds.
Barley	900
Oats	560
Difference	340

Barley furnishes, therefore, 340 pounds more digestible nutrients per acre than ots which means about 60 per cent. more than oats.

PARALYSIS.

Editor Cultivator: I am losing some of my pigs from what some of my neighbors call paralysis. When about a week old they seem to become weak in the hips and then they lose the use of their hind legs and then their fore legs and in a day or two are dead. Some of the sows have run on barley stubble before and after farrowing. Others were turned on green pasture about two weeks before farrowing and were fed a small feed of dry barley once a day. Have lost pigs from both lots of sows. The whole litter dies. What can be done to prevent and cure the disease?—J. D. A., Heber.

The paralysis that is killing off your pigs is apparently of a contagious character. I would advise separating all healthy sows that are with pig from the others at lesat two weeks before coming in, and give a mixture of sulphate iron and sulphur. Equal parts. Dessert spoonful once a day in feed.

SKIM MILK FOR CALVES AND PIGS

A profitable product of the dairy, if saved in good condition, is skim milk. Our best dairymen have long ago realized the true feeding value of skim milk. At the Kansas station the result of an experiment with thirteen groups of ten calves each, showed that when calves are worth $3 per cwt., skim milk is worth nearly 20c per hundred; with calves at $4 per cwt., it is worth 30c; and at $5 per cwt., it is worth 40c. The experiment was conducted in a practical way and the results show about the average value of skim milk for calf feeding provided this product is sweet, fresh skim milk fed right. Skim milk fed to calves from a centrifugal cream separator, such as is now within the reach of every farmer, fed sweet and fresh within an hour after it is separated is worth at least twice as much as ordinary skim milk derived from deep setting, open setting or the skim milk from a creamery.

Skim milk is a flesh and bone producer. It is as good for pigs as for calves. The fat required for fat and body heat can be supplied by means of flax meal. Brother farmer, if you have been feeding your skim milk in the old way, stop it at once. Get connected up with a modern dairy separator and feed your milk for profit. It will pay you big.

Tool Tests

Keen Kutter Tools stand every test of a good tool. You can take a Keen Kutter Hand Saw, bend the end of the blade around *until it touches the handle* and it will spring back straight and true. Every other kind of a Keen Kutter Tool is as good a tool of its class as the Keen Kutter Hand Saw. The Keen Kutter brand covers a complete line of tools, and every

KEEN KUTTER

Tool is made of the finest steel and made in the best possible manner by expert workmen. This quality tells in actual use—it means freedom from constant sharpening—it means long and satisfactory service. Even in the beginning Keen Kutter Tools cost little more than inferior qualities—in the end they are by far the cheapest tools you can buy. Keen Kutter Tools have been Standard of America for 36 years and were awarded the Grand Prize at the St. Louis Exposition.

E. C. SIMMONS KEEN KUTTER TRADE MARK REG. ST LOUIS MO

Send for Tool Booklet.

Following are a few kinds of Keen Kutter Tools, which your dealer should have—if he hasn't them, write us and learn where to get them. Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Eye Hoes, Trowels, Pruning Shears, Tinners' Snips, Scissors, Shears, Hair Clippers, Horse Shears Razors, etc., and Knives of all kinds. Every Keen Kutter Tool is sold under this Mark and Motto: *"The Recollection of Quality Remains Long After the Price is Forgotten."*

Trade Mark Registered.

SIMMONS HARDWARE CO., St. Louis, U. S. A., 298 Broadway, New York.

BEST MATERIAL FOR BEDDING.

The best bedding is that which will keep the animals clean and at the same time absorb the largest amount of liquid manures. Straw, sawdust and shavings vary greatly in this respect and recent tests at the Md. experiment station give some interesting comparisons.

To keep cows clean it requires more cut straw than that which is full length. The former is easily kicked about, will not pack down solidly and retain moisture. The same is true of cut corn fodder. Besides this, the fodder has more feeding value than the straw, and, consequently, it could not be used to such an extent as bedding material.

Sawdust is a comparatively cheap bedding where it can be obtained readily, and, everything considered, was the most satisfactory mtaeriai used in the Md. test. It keeps the cows cleaner, stays in place, and is more easily handled than other materials. Quite dry shavings are also very satisfactory, although not so good as sawdust. All requirements considered, ordinary full length straw is the best material that can be obtained on the majority of ranches.

A GOOD HOLSTEIN COW.

Editor Cultivator: In your issue of November 10, 1905, I noticed an article entitled "Remarkable accomplishment of the Holstein."

I read the article carefully and was much gratified to find that our cow, under common ranch feeding, and the old obsolete method of shallow pan setting and skimming, came very near beating the record mentioned.

She is a grade Holstein and averaged 44 pounds of milk per day, and made over 15 pounds of butter in seven days.

What would she do with scientific feeding and the improved method of handling her product?—C Mc. D., Hemet, Cal.

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. 8 x mil s from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

For Catarrhal Fever

Pink Eye, Distemper and all diseases Nose and Throat

Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1 00 per box, ½ doz. $5 00. Sold by druggists, or sent express paid
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal.

Berkshire Boars For Sale

At Gen. Shafter's ranch near Bakersfield. Fifteen fine, young Boars on hand, now old enough for service. They are out of Imported English Sows, Artful Lee sire. Prices from $15 to $20. Address

Gen. Shafter · Bakersfield, Cal.

WIRE FENCE
HOG GOODS CLOTH NETTING WORK BARB WIRE COW HORSE SHEEP
WEST COAST WIRE & IRON WORKS
19 FREMONT St. SAN FRANCISCO

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

CONTRACTED NERVE.

Editor Cultivator: I have a horse whose left eye is partially closed, can open the lid with my fingers but it closes again and remains so. What should I do?

Your horse has nerve contraction. Apply warm application of flannel for and hour and rub with liniment being careful not to let any of the fluid enter the eye. If this affords no relief see a veterinarian.

* * *

ECZEMA.

Editor Cultivator: I have a heifer eighteen months old. The hair on her tail is falling out. The end of the tail is dry and scaly. She appears well, eats hearty, runs in pasture and has both dry and green feed. What is the trouble?—S. Ruburn.

This is a form of eczema affecting your cow.

Wash the parts clean and apply Kreso dip 3 ounces to quart of water, repeat twice a week.

* * *

LUMP ON JAW.

Editor Cultivator: Will you please advise us through the Cultivator for our cow.

She has a lump under her jaw, otherwise she seems perfectly well, her horns are warm, she eats good and will calve in February. We had to dry her up as her milk tasted bad. She has not been with other cows. If you could tell us what to do we would be thankful.—C. R. P., Campbell.

You don't state whether the lump is attached to the bone or where located. You probably have a case of actenomosis or lump jaw. But that would not cause bad taste in milk.

Treatment if on jaw bone: Iodide potassium, 2 drams twice a day.

* * *

SALIVARY DISCHARGE.

Editor Cultivator: I have a mare nine years old. She is fed on oat hay; when she eats the water runs from her mouth, so that by the time she finishes half of it, the other half is so wet that she don't want to eat it. She is quite thin, but has a good appetite. Please inform me in your paper the cause and remedy.—J. W. S., Lakeside.

This watery discharge is saliva; there is some irritation of the salivary glands, probably from some foreign body getting into the opening. Examine well under the tongue and in the inside of cheek over the third molar tooth. Remove the obstruction if any—gargle the mouth three times a day with alum powder; tablespoonful to pint of water.

* * *

DIABETES.

Editor Cultivator: I have a fine four-year-old horse, gentle but high life. He passes water very often, usually very slow. Sometimes in large quantity; often time in small quantity. It will run off without any effort, apparently.

Has a ravenous appetite; keeps in rather poor flesh. Does very light work. Can you from the above description prescribe a remedy to check the frequent passing of urine.—G. R. S., Santa Ana.

This is diabetes. Give 1 ounce of Sanmetto twice a day in feed or with syringe on tongue.

* * *

BRUISED TEAT.

Editor Cultivator: Will you please tell me through the Cultivator what to do for my cow? When I go to milk her she gives quite a lot of blood out of one of her teats. She is a young cow, with first calf and gives a nice lot of milk; she eats well and is alright otherwise. She has been doing it quite a while, sometimes it makes the milk quite red.—J. P., Hynes.

This cow must have bruised the teat lying down; see that she has a comfortable place to lie, and nature will do the rest.

THE MILKING STOOL.

We know a milking stool is used to sit on, and too frequently to pat the cow with, but not every one knows that the kind of stool used plays an important part in the number of cows a person can milk without fatigue. Stool should be made to suit person using it, and be rather high; high enough so that when used the milker's arm from shoulder to elbow hangs nearly straight down. The weight of the arm then comes naturally on the shoulder, and it is not necessary to raise the whole arm when grasping the teats at each stroke. Moreover, it is much easier on the cow than when a low stool is used, for, in this case, the milker, after grasping the teat, rests the whole weight of the arm on the teat and this, with the jerking, is not conducing to comfort for the cow. A stool of the proper height will enable most milkers to handle fully one-third more cows without fatigue than if stool is too low.—R. E. Dimick in Successful Farming.

IMPORTING MILCH GOATS.

It may not be generally known that the government is looking into the question of importing goats to take the place of cows in the dairy. The prevalence and spread of tuberculosis in the Middle West, among milking stock, has brought about this investigation.

The Bureau of Animal Industry has had an agent in Europe all summer investigating the goat industry there, and he has already shipped fifty head secured on the island of Malta and more are to follow from the mountains of Switzerland. With these, and others of different strains, experiments will be conducted at Storrs, Conn., and it is believed that there is a great future for the industry in the United States.

"Goats are immune from tuberculosis," says the dairy writer in the Dakota Farmer, "and this alone ought to guarantee them a welcome in such centers of population where the people are fed on milk from tubercular cows, as development within the year has proven that many are." Additionally, many poor families that cannot keep a cow—and thousands cannot that are not termed "poor"—can keep a milch goat, and have rich wholesome milk for the children and themselves.

From the flock of Angora goats brought into Imperial valley late last year, Clarence E. Conant sheared three weeks ago a clip of mohair that will aggregate full 2500 pounds. Shipment of the clip will be made this week to New York, where the present market price is from 22 to 33 cents per pound.

PUMPKINS FOR MILK.

Are pumpkins good milk producing food for cows and are the seeds harmful?—J. A. B., Charter Oak.

Pumpkins are regarded as good feed for cows used with some salt.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

Must be Sold by January 1st, 1906

Having sold my ranch. I am forced to sell 40 head of Registered and Grade Jerseys Ten registered cows, milking now; 4 young heifers, eligible; 8 bulls, registered or eligible; 18 cows and heifers, pure bred and grade, not eligible. This herd represents some of the best blood on this coast. Parties wishing to see the stock can take Santa Ana electric car and get off at Hansen. Station is right at the ranch.
W. J. Cole, R. F. D. 1, Anaheim, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, *if not the best* sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented. I will give anyone the *bull free of charge. I sell on merit.*
C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
leads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas. Riverside. Cal.

VENADERA HERD
OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business Abundant green feed every day in the year will be of great advantage in the best development of our young stock.
Whiting Jersey Stock Farm Co., Haber, San Diego Co., Cal.

LEMONITA HERD
—EFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams. for sale.
L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.

La Palma Stock Farm
We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.
Also a fine Registered Jersey Bull and Six Registered Cows for sale.
Write for what you want.
J. A. CAMPBELL. Buena Park, Cal.

Security Rheumatic Liniment
Soaks in and crowds out pain. Use it for lame back, stiff neck, neuralgia, rheumatism, sprains, strains, bruises, swellings. Guaranteed. Dealers everywhere.
Security Stock Food Co. Minneapolis, Minn.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

OPERATING AN INCUBATOR.

(Continued.)

As I said in commencing my talk about incubators, each incubator requires slightly different handling, so follow the directions which are given with whatever incubator you have. There are, however, some general, common sense rules which apply to all of these, the first of them is about turning the eggs.

* * *

Turning the Eggs.—The eggs must be left for forty-eight hours after they are placed in the incubator without turning. After that they should be turned twice a day or oftener. I have read that a setting hen turns her eggs about eight times a day and twice during the night. I do not know how the writer discovered this, but I know I have watched a hen, through a crack in the barn, where she will not know any one was observing her, she kept on gently pushing the eggs under her, first on one side and then on the other, changing the position of the eggs at every move, and pushing those that are on the outside into the center of the nest. If you follow the hen's example and not only turn the eggs in the incubator but move them, shifting their position on the tray, you will have a much better hatch than if you leave them in the same place on the tray. The eggs need not be turned clear over. The best plan is to lift out the two center rows in the tray, roll the others into their place with the hand and place those from the center on the outside. It is really more important that the eggs be moved from their location than merely turned, as this changes the position of the eggs in regard to weak germs or infertile eggs. Turning the eggs in this way by hand is much better than by the automatic turning device, and safer than using an extra tray which is placed on top of the full tray and both inverted. This way of turning is very fatiguing especially to a woman and frequently results in cracked eggs.

Turning and moving the eggs gives exercise to the embryo for the germ floats always at the upper side of the egg and when the egg is turned the germ has to move to the upper side. This moving exercises and strengthens the chick and makes it vigorous. In the large incubatories in Egypt where as many as six hundred thousand eggs are hatched in one season in one house, the man and boy, whose business it is to attend to the eggs, keep them rolling along constantly, pushing them gently with their hands and arms, and failures in hatching are unknown in Egypt.

If the eggs are not turned during the early stages of incubation, the germ may dry fast to the shell and the egg will be lost. Where the egg is not turned during the latter period the embryo does not develop properly, and has little chance of hatching out, or may result in a cripple.

The first forty-eight and the last forty-eight hours the eggs should not be turned. The reason for this is that during the first period the germ must have perfect rest, and during the last two days the chick has to turn itself in the egg and should be allowed to rest in order to commence to pip the shell at the upper side.

* * *

Cooling the Eggs.—The next thing to consider is cooling the eggs. Here let us follow the example of the hen. For the first few days Biddy comes off the nest seldom and appears in a hurry to return to it. As the days pass by she apparently becomes more careless and remains off so long that it becomes alarming and one fears that the eggs will be quite cold, however, the last two days when she hears her babies crying in the shell she does not leave the nest, but she sits high, almost standing up and she does not turn the eggs.

An experienced poultry breeder can tell at a glance when a hen is about to hatch by this change in her demeanor.

The cooling of the eggs I consider an important matter in our American incubators, although it is not practised in Egypt. In many of our incubators, where the ventilation is imperfect especially in hot water machines, it is the saving of the eggs as they then get their supply of oxygen for the day.

The first week, following Biddy's example, the eggs require but little cooling beyond the time it takes to turn them. The door of the incubator should be kept closed during the time the eggs are out of the machine (unless the instructions for operating order otherwise). The second week, as soon as the eggs are turned, replace them in the machine and leave the door open for five minutes, after this increase the time a minute or two each day till at the end the eggs are being cooled fifteen or twenty minutes.

* * *

Cooling the eggs renders the shell brittle. I am not scientific enough to tell you how this is done, but I know that as the eggs warm up again an almost imperceptible moisture comes over them (similar to, only not so much, the moisture outside a glass of cold water on a warm day,) this moisture takes the place of the perspiration of the hen, and obviates the necessity of dampening the eggs. I think it may be this that not only makes the shell brittle but renders the lining skin inside the shell less tough, or it may be that the cooling and heating with its certain shrinking and expanding of the shell makes it brittle.

But one thing I do know and that is if the eggs are properly turned and aired the hatch will be a great deal better than if these important duties are neglected. A hen that sits too closely and does not air her eggs will not have vigorous chicks, and will have chicks that die in the shell. So with an incubator, if the eggs are in-

(Continued on Next Page)

FEEDING FOWLS BY MACHINERY.

During the year 1905 Armour & Co. added a poultry feeding department to their plant, the only one in operation here. Twenty-five hundred birds of all descriptions, says an exchange, are now on feed there constantly. For one who has never seen a department of this kind it is a novel and interesting sight. The poultry are fed by machinery with a food specially prepared from packing house products, some wheat flour and other ingredients.

Feeding by machinery sounds rather strange, but it is true nevertheless. The food, which is thinned into liquid form, is put in a small tank, having a compressed air arrangement and tube attached thereto, is placed in the bill of the fowl to be fed. At the slight pressure of a handle the matter is forced into the craw, and the chick, turkey or goose has to take his rations whether he wants it or not.

This system is called "stuffing." It requires 21 days to finish a fowl for the knife, but when it is killed it shows the beneficial effect of the operation. This is only one more of the many resouces of a modern packing house.

Add a gill of oil of sassafras or crude carbolic acid to each gallon of kerosene when spraying hen house. The acid is a disinfectant while the oil of sassafras will drive away ants and other insects.

Ducks must have dry quarters at night, even if they do live in the water through the day. The greatest half of any disease is eliminated by removing fowls to dry quarters.

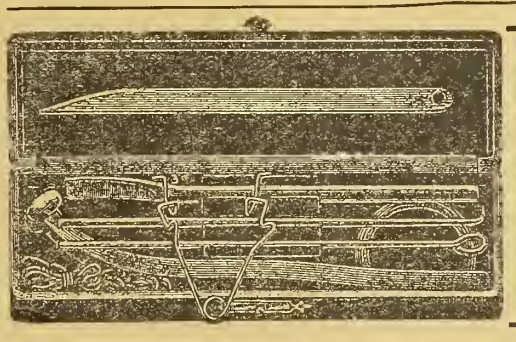
The hen steals her nest away from the house and roosts on trees, vines and farm implements to keep away from the blood-sucking mites that harbor in the poultry houses.

"Where is the twelfth juror?" exclaimed an Idaho judge, as court reconvened after a recess, with only eleven good men and true in the box. One juryman arose.

"Please, Judge," said he, "it's Ike Simmons as is gone. He had to go on private business but he's left his verdict with me."

BLUE ANDALUSIANS

Eggs for hatching after November 15th from three noted strains. Morse, Cosh and Griffith. Pens headed by prize-winners from Madison Square, Chicago, Toronto and Los Angeles. Some grand young stock for sale. Incubator orders a specialty this year. from $7.50 to $15 per 100. Settings from the best matings, $2 50 and $3.50 per 14. Fertility guaranteed. For further information write to
MRS. T. R. GRIFFITH, 3111 Walton Avenue, Los Angeles, Cal.



Caponizing Set

Double Your Profits by Caponizing.

Complete with Instructions, $25D, Postpaid

STOCKMEN'S SUPPLY CO.
FRESNO, CALIFORNIA

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

. BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

sufficiently cooled and aired there will be chicks dead in the shell.

* * *

The length of time for cooling the eggs must be governed by the heat of the room in which the incubator stands. When the temperature of the room is between fifty and sixty degrees, during the last week, about fifteen minutes is the proper time for cooling, when the temperature is between sixty and seventy degrees, twenty minutes, and if it is seventy or eighty degrees, half an hour will not be too much.

* * *

EDITOR'S QUESTION BOX.

Charcoal, etc.—(W. K., Los Gatos). Kindly instruct me how to burn charcoal for chicken use. Also how to burn bones for the same purpose. Would it not do to mix wood ashes in the food instead of coal. Our wood here is live oak. Since I started the dry feeding according to Mrs. Basley my chickens have loose yellow droppings. What shall I do to keep their bowels in good condition?

Answer.—Charcoal is usually made from wood. The wood is stood up on end in rows, making a large cone-like heap, which is covered with turf, holes being left at the bottom for air to get in. An open space for a chimney is left at the top and the wood burns slowly from top to bottom and from center to outside. When fully burned, the heap is covered and left to cool for a few days. You might burn bones at the same time. I think it would be better to buy the charcoal at your nearest fuel store. Then pound it and grind it in your grist mill.

Tell me exactly the proportions of the dry feed that you are giving your fowls and I will tell you where it is unbalanced. Probably a little too much protein, but I can only guess at it, as I do not know what you are feeding. Mrs. Basley gave several formulas for dry feed. Wood ashes must not be mixed with the food of the hens; it would make a lye that would be very harmful.

* * *

How Much Food?—(W. F. K., Los Gatos). Six months ago I bought a few half breed Plymouth Rocks. Fitted up yard and cared for them as you direct in the Cultivator. Have now a fine lot of pullets and young roosters.

I wish your advice as to whether Barred Plymouth Rock is a good kind to raise; what foods to use from start to finish to produce fine flavored meat and plump but not over fat chickens. What is the exact amount in weight (say for each 50 hens)) of food that chickens should consume per day to be thrifty and in good laying condition? From all I read I really cannot find out just how many ounces of food each chicken should get per day, even the bulletin (No. 164) does not state plainly this most vital item. Kindly answer, at your earliest convenience of course, I suppose through the Cultivator.

Answer.—I am glad you are having such good success with your poultry. Barred Plymouth Rocks are an excellent table fowl; you could scarcely have any better. If you have fed according to my directions in the Cultivator, sweet clean food and plenty of green food with clean spring water your fowls will require nothing else to make fine flavored flesh. I would, however, suggest that you finish off the feeding by the French and English method of cooping the fowls in small coops and feeding them three times a day equal parts of corn meal, oat meal and bran, all they will eat in twenty minutes. Mix the ingredients with skimmed milk. Three weeks of this feeding will make as delicious and toothsome a fowl as you ever tasted.

The rule for feeding fowls which meets with good results is feed one ounce of the dry food for every pound of weight of hen. Your fifty Plymouth Rock hens would require about twenty pounds per day, not counting green food which they would pick up.

* * *

Marketing Turkeys.—(J. R. H., Orange). Will you please answer in the columns of your valuable paper how to dress turkeys for the market properly, should they be scalded or not and should the head be left on. Also if turkeys can be caponized and at what age; what is the effect on them?

Answer: The heads are usually left on, the turkeys being killed by bleeding from the mouth and piercing the brain. Private customers, however, often prefer the heads to be cut off and the turkeys killed by decapitation. The commission houses in the cities will usually furnish shippers full instructions for dressing, packing and shipping turkeys and other poultry as market demands are not the same in all cities.

In preparing turkeys for market first save out your best, most vigorous and largest birds for your own breeding stock for next season. Do not trust to the later hatched birds developing in time to make good breeders for next year. Keep the very best you have for this. Second: is it very important to prevent the turkeys from being frightened and bruised when caught for killing, the best plan is to catch them at night, keep them in a coop or box without food for about twenty-four hours, unless you have cooped them to fatten them for two or three weeks. A turkey that is bruised looks very badly and will not bring a good price.

Turkeys can be picked dry or scalded. In the East they are always dry picked, but here they are scalded. It is easier to pick them when scalded. The success of the operation depends upon having the water at the right temperature, as near boiling as can be, and yet not quite boiling. If the water is not hot enough the feathers are not loosened enough, and if it is too hot, the skin is partly cooked, will tear very easily and the body when cold will be discolored in spots. Never pour the water on from a teakettle, have a wash boiler on, or a five gallon oil can will do, and when it boils take it off the fire, add a pint of cold water to stop it boiling, take the turkey by

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

I have only a limited number of breeding birds left at reduced prices. Order at once. Now booking orders for eggs for delivery after January 1st. Orders filled in rotation.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

We Hatch for Vigor -- New Method of Hatching

Such chicks produce little trouble in the brooder. If you want strong, vivacious chicks, place your order with us and you will be pleased with the goods you receive. Pullets and chicks for sale. Write, or call on us, Cherry Street, second door north of Laurel.

Cherry Valley Ranch Box 195, Petaluma, Cal.

Profit in Poultry

Start right by getting a good Incubator. DEAN'S PACIFIC will prove a money maker. "Facts From Experience," and catalog free.

DEAN'S PLACE
2509 CENTRAL AVENUE LOS ANGELES, CAL.

LEE'S EGG MAKER

25 lb. Pail, $2.00 WILL 2½ lb. Package, 25c

MAKE EGGS

Henry Albers Co., 315 So. Main St., Los Angeles, Cal.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

Armour's Improved Beef Scraps

Armour's Improved Beef Scraps contain no bone, hair, wool or tankage and are a rich brown color

Henry Albers 315 South Main St.
LOS ANGELES

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Istributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

its legs and head (that the head may not be discolored) and souse it up and down in the water, as soon as the feathers are loosened (try a few) stop sousing, hang it up by its feet and quickly remove the feathers, using both hands, with a wiping off motion which is easily acquired, pull the quill feathers carefully so as not to tear the wings and remove all the pin feathers. Then plunge the carcass into scalding water for a few seconds to plump it then into cold and hang it up to cool. Do not pack for shipping for twelve hours, or until perfectly cold.

Turkeys cannot be caponized successfully.

* * *

Sick Turkeys.—(A. C. E., Holtville). As I am a beginner in the poultry business, I have decided to appeal to you. I have lost three turkeys with a disease strange to me. They become sick, the head turns purple, there is great heat in the head and neck and they die in twenty-four to forty-eight hours. Then, the chickens get dumpish, sneeze, fall away in flesh and finally die. There is no swelling of the head or symptoms belonging to roup as I understand it. They have no lice or other cause to be sick. They have feed twice a day of corn and run on alfalfa. Will you please define the trouble and the remedy?

Answer: Your turkeys undoubtedly have "black head (infectious Entero-hepatitis)." This is an infectious disease, cause by microbes and resembles typhoid fever in human beings. Cushman, an authority on this subject, says: "The disease takes its name from the turkeys becoming purple about the head. It is an infectious liver disease. Turkeys having the disease affect the land they run upon. The organisms (microbes) are present in their excrement, and if taken in with food or water, may produce the disease in other turkeys. Sick birds should be killed and burned or deeply buried. Buildings, coops, feeding and drinking vessels should be disinfected. Take great pains to clear out the sick from both young and old, and then, if it is possible, change the well ones to new ground. Little turkeys are most susceptible to it. Wet, stormy weather aggravates the disease. The feathers look rough; they have diarrhoea, with bright yellow excrement; and they weakly drag one foot after the other some time before they die.

Prevention is possible, but cure is difficult. A tonic and stimulant for liver and bowels will help prevent the disease; confinement and over feeding favor it."

Dr. Salmon says: "Where a flock of turkeys has recently been affected it is well to try some remedies, with a view to arresting the disease in the mildly affected birds, and of preventing the infection of others by making the intestinal contents unsuitable for the multiplication of the parasite.

Sulphur 5 to 10 grains, sulphate of iron 1 grain may be combined and given at one dose, or one grain of quinine may be added to this. Hyposulphite of sodium may be useful in doses of two to four grains. It is necessary that these remedies be repeated two or three times a day and continued for a considerable time. The doses mentioned are for turkeys weighing four or five pounds."

* * *

Mating Turkeys.—(Mrs. G. E. D., Tropico). I have seven turkeys raised this year, six hens and one gobbler, all from the same hen, so they are related. Can I mate that gobbler with the hens next spring, or had I better change? He is seven months old and weighs 16 pounds, he is such a beauty that I dislike very much to part with him.

Kindly answer as soon as convenient.

Answer: You had better get another Tom to mate with your hen turkeys. Turkeys deteriorate in size and vigor if inbred more than any other fowl.

* * *

Sweet Peas.—(Mrs. H. Oceano)—Would sweet peas as regular feed be injurious to pigeons and ducks? What would be the effect of feeding raw or feeding cooked?

Answer: I think pigeons would like sweet peas raw and that no bad results would follow the use of them, I advise you to try some before buying. Mix some with your pigeons' wheat and note the effect.

Ducks do so much better on mashes than on grain that I think you would have to cook the peas for them. The protein content of all peas and beans is high, but is is sometimes quite difficult to persuade ducks to eat a new food, so my advice would be to experiment a little before buying sweet peas, and soak the peas over night before boiling, then boil the animal food that you are feeding with the peas add twice the amount of bran after the peas are cooked and see how the ducks take to it. It is a good deal of trouble and unless you have the peas or can buy them very cheap, say at not over fifty cents a hundred it would not pay.

* * *

Feeding Corn.—(Mrs. M. I. B., Upland.) When feeding corn with other grains to chickens as a part of their regular rations, is it better to feed cracked or whole corn?

Answer: It is better to feed cracked corn, because the grains being smaller it takes longer to eat; half a dozen pecks for each grain when cracked, this makes a hen eat more slowly and is less trying to the digestion.

Roup.—(D. C. G., Palermo). Would you please tell me through the Cultivator what ails my chickens, if they can be cured, and also give remedy? They commence with their eyes and head becoming sore and swollen, their throat seems to fill up and later on the joints of their legs become swollen and blue, as though bruised, then at length, they lose the use of their bodies and refuse to eat.

Answer: Your chickens have the roup. Use one of the remedies given in a September issue of the Cultivator. You do not state age of fowls, nor breed, or I could give more explicit directions. Matured fowls require about the same doses as human beings. Always state age and breed when writing for advice.

DRINKING VESSELS FOR FOWLS.

The Cultivator has repeatedly called attention to the necessity of clean drinking dishes for fowls. They should be washed daily, once a week scalded in hot water with lime or gold dust to clean them of bacteria. They do not require the same capacity as feeding troughs. It is enough if a few fowls of the flock can drink at a time. It is always advisable, however, to arrange the vessel in such a manner that fowls cannot get into it with their feet. The vessel might be enclosed with a box. A good way to serve drinking water for two adoining pens of fowls is: An opening is cut into the partition wall, a board fitted in for the pan to rest on, and the pan being placed right under the partition wall so that one-half of it extends into each pen. The fowls cannot easily get into it nor upset it. In warm weather we must in some way solve the problem of how to keep a constant supply of pure, fresh water before the fowls, young and old, and this object is worthy of serious attention. If we give the water in shallow dishes, the supply must be often renewed, and the vessels frequently emptied and thoroughly cleaned. Practical Farmer recommends washing out with Bordeaux mixture, or copper sulphate and lime in solution, is perhaps one of the best ways of cleansing the drinking vessels. It is as good and effective a disinfectant as anything that could be used. A running stream from brook or hydrant, a clear creek or lake where available will, of course, furnish the ideal water supply for the fowls or other domestic animals, especially during the warm season. Where such a supply cannot be had, as in the mojority of cases, a tight double-headed barrel, thoroughly cleansed out and kept pure and sweet by an occasional rinsing with Bordeaux mixture or other disinfecting fluid, can serve as the next best thing if set into a tight box and so arranged, by inserting a faucet into the barrel side just a trifle lower than upper edge of box and hole with cork stopper in head of barrel, that the water from the filled barrel will run out just fast enough to keep the box nearly full.

When the barrel is once filled and kept in the shade, or still better, if a cloth is covered over it with lower end hanging down into the box, so that there will be a good-sized surface for evaporation, it will supply good water for fowls for quite a while.

Feed your chickens on boards and so avoid the gape worms that are liable to be picked up from the ground.

Choice Alfalfa or Chicken Ranch
Twenty acres good sandy loam soil, no alkali, abundance of water, 5-room house, large barn and incubator cellar. Near Anaheim.
WM. A. GREEN, BOX 401, ANAHEIM, CAL.

WHITE LEGHORNS
Eggs from pure white, trap nested, high-grade birds. Just a few cockerels for sale.
MRS. D. F. STONER, ONTARIO, CAL.

Single Comb White Leghorn Cockerels For Sale
A1 Stock, Standard Bred. Address
A. H. BLAKELY - ONTARIO, CAL.

High=Priced Eggs
Every one would like them to sell, and can just as well have them. We guarantee Security Poultry Food will make hens lay. Ask our dealer in your town. Try it.
Security Stock Food Co. Minneapolis, Minn.

Walnut Grove Poultry Ranch
Standard Bred White Wyandottes, (Hay's strain). Eggs for hatching from carefully mated stock, $2 per 13; $12 per 100.
F. L. Hogue - Carpinteria, Cal.

WHITE LEGHORN CHICKS, 10 Cts.
WHITE PLY. ROCK CHICKS, 12½c.
Both from good stock and in good healthy condition. The W. P Rock males where I got my eggs are from prize winning stock. Leghorns are selected and have good markings. This is a fine time to start young chicks, after the rain; yards purified, green growth coming and mites and lice at a disadvantage.
Wm. A. Green, Box 401, Anaheim, Cal.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.50 and $3.00 per 14 Exhibition and utility stock for sale 132 Ave 32, Los Angeles, Cal.

BARRED ROCKS, WHITE MINORCAS, INDIAN RUNNER DUCKS AND WHITE HOLLAND TURKEYS
Prize winning birds at Central California Fair, where 7 firsts were won in '05.
JOE McDONALD, R. F. D. 2, HANFORD, CAL.

LINDGREN BROS. KINGSBURG, CALIFORNIA McPHERSON, KANSAS
BUFF LEGHORNS BARRED ROCKS
Prizewinners at Chicago, St Louis, San Francisco and majority of prizes at Portland on Buffs Choice Cockerels and Pullets for sale.

RHODE ISLAND REDS
Fine large stock, heavy layers, best of broilers. Eggs, $1.50 per setting.
J. O. Setzer, Northrup and Pedro Sts., San Jose, Cal.

Breeding Cockerels
WHITE LEGHORN BLACK MINORCA
One hundred. Good Stock. A few pens of choice stock for sale. Write for prices
Avenue Poultry Yards Ventura, Cal.

S.C. RHODE ISLAND REDS, WHITE ROCKS, BUFF and BROWN LEGHORNS
High grade young stock for sale. Closing out our Brown Leghorns at bargain prices. No Sunday business.
LAKE AVENUE POULTRY YARDS
757 North Lake Avenue - Pasadena Cal.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the Last Los Angeles Show Our Birds Won Twelve Prizes.
Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks
Duck Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Ducklings 10 days old, 25c each. Ready now.

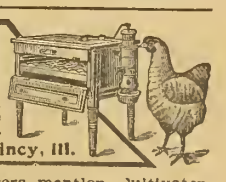
SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

$12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
GEO. H. STAHL, Quincy, Ill.

When writing advertisers mention Cultivator.

General Agricultural Notes

FARMERS' NATIONAL CONGRESS.

As the time for meetings of various agricultural organizations is at hand, when many of the leading farmers of the country will meet for discussion and friendly intercourse, attention is called to the Farmers' National Congress. It is the only all-round national agricultural body in the country which meets annually to discuss broad national agricultural problems, and to pass resolutions. There is a field for such an organization, and the one above named has had a useful and successful career for 25 years. But its officers and friends desire to increase its usefullness and to have it even better attended and more representative than in the past. More than 95 per cent of its members are actual farmers. The others are editors or proprietors of farm papers, officials of national or state departments of agriculture, and others in close touch with agriculture. There is no fund for paying expenses of delegates to the annual sessions. This includes the officers, who serve without pay. The Congress does not include in its membership the element that seeks a free junket or personal advantage. Another session will not be held until next autumn, but the present is a favorable opportunity to consider it, and bodies which meet only once a year and that in the winter, can take action, should they desire to do so, only at this season. The Congress is composed of delegates from the different states, appointed as a rule by the governors of the states, but official representatives from live agricultural bodies are always welcome, and when such representatives are duly elected by their respective organizations, Governors will doubtless be very willing to appoint them as state delegates to the next Congress.

George M. Whitaker, Secretary. P. O. Box 1332, Boston Mass.

EXPERIMENTS WITH EUCALYPTUS POSTS.

Experiments with eucalyptus timber are being conducted at Ellwood, Santa Barbara county, by Robert W. Ayres, who arrived a week ago from Washington, D. C., direct from the forestry service. The Santa Barbara Press says: "Mr. Ayres' first work is to experiment with encalyptus for use as fence posts. He has secured the benefit of the co-operation of Ellwood Cooper, the State Horticultural Commissioner, who has given him the use of posts from the fine eucalyptus timber on the Cooper place at Ellwood. The Government's offer is to treat without cost posts that are furnished by land owners, who will use the posts as they are treated and report to the department on the result. While the work is largely experimental, there is sufficient promise of benefit to repay the farmer for his trouble in taking the posts to and from the treating plant located on the Cooper ranch.

The posts are dipped in creosote which has been found to be about the best preservative for such purposes. While its effect on cucalyptus has never been officially tested, it has been in extensive use in the South for the treatment of piling for the swamps; and the Southern woods treated with creosote have been given a life of twenty-five to thirty years against three to five years for the same class of timber not treated. Experiemnts with the eucalyptus for wharf piling along the Santa Barbara coast have already given encouragement to the further planting of these trees, and the co-operation of the department at this time will result, no doubt, in further stimulus.

Redwood posts are now in general use throughout California and cost at this point from 15 to 20 cents. It is thought that eucalyptus posts can be grown for 5 or 6 cents and the cost of treating is from 2 to 3 cents. If the result of the treatment will give a post that will last as long as the redwood, there will be a saving in cost of one-half.

The posts are usually dipped for a depth of 3 feet, to allow about a foot to extend above ground. In some instances, for the sake of experiment, the entire post is immersed. A tank with a brick furnace underneath has been provided. The creosote is applied while at the boiling point.

A NEW WAY TO POISON COYOTES.

An Oklahoma farmer discovered that coyotes had grown too smart to eat poisoned bait which had been left around where they could get it and worked the double-cross on them with great success. He put himself in a coyotes' place and reasoned that if he could find a piece of meat that had been buried there would be no danger in digging it up and eating it. The farmer then strewed some unpoisoned bait out on top of the ground, and buried the bits which contained the strychnine and watched results. The buried bait was dug up and devoured and for each one he found a dead coyote. Perhaps the suggestion may be worth something to the cattle men down this way if the animals are wary of the ordinary bait.—The Ranch.

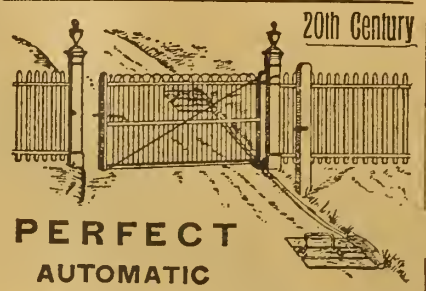
It is now estimated that about three hundred acres of East Whittier and La Habra land will this winter be devoted to the raising of cabbage.

U. S. Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, Nov. 20.

The weather was generally clear and cool in the central and northern sections and warm and clear in the south. Frosts occurred in portions of the interior, but caused no damage. Light rain fell in some sections on the 16th and 17th and general light rain in the central and northern sections on the 19th. Cool north winds prevailed at the close of the week.

The rain was beneficial in many respects, but was too light in most places to soften the soil or start pasturage. The atmosphere was cleared and forest fires in the foothill districts were extinguished. The soil absorbed all of the water that fell, but more rain is needed at once to enable farmers to complete plowing and seeding. In the southern section the soil is in excellent condition since the recent heavy rains; pasturage has started and farm work is progressing rapidly. The drouth in the central and northern sections has been the longest in recent years, but as yet the farming interests have not suffered seriously, the principal injury having been to stock raisers, dairymen and mining.

The weather was especially beneficial to Southern California oranges, which are ripening rapidly and look well; it is expected that some shipments will be made for the Thanksgiving trade. Orange picking continues in the Porterville and Oroville districts and considerable quantities have been shipped. Walnuts and olives are being gathered.



PERFECT AUTOMATIC GATE. 20 STYLES.

Money Refunded If not satisfactory or as represented. ***Works 365 days each year. NO OILING***—ten minutes each year and 10 to 20 cents expense—***no more.***

Enclose 3c stamp for 68 page catalogue.

The Lloyd Co., Inc.

Petaluma. California

Ranch for Sale

To close an estate, we offer 33 acres near Compton, for sale. Choice Alfalfa land. Best artesian well in that section. Water to sell. Address

Phone Main 922 ***C. F. LEE, Pasadena, Cal.***

WOODMANSE

BEST MILL ON EARTH

On account of its removable bearings will pump more water than any mill on earth.

F. H. OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

THE RAPP FENCE

The Most Practical, Durable and Lowest Priced Fence on the Market.

THE ROEBLING CONSTRUCTION CO.,

Broadway and 23rd St., New York

Write for Illustrated Booklet

Make Your Own Fertilizer

at Small Cost with

Wilson's Phosphate Mills

From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue.

WILSON BROS., Sole Mfrs., Dept. Easton, Pa.

"FERTILIZERS FOR THE LANDS SAKE" A.C.W. TRADE MARK

Phones { Boyle 3 / Home 6063

"A SQUARE PEG IN A ROUND HOLE"

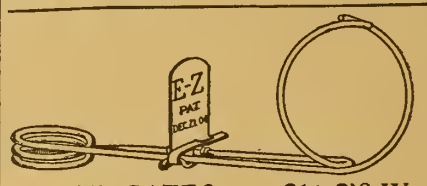
It is often the case in using fertilizers,—much money is wasted every year by the users of fertilizers "putting a square peg in a round hole"; it doesn't fit. The right mixture is important. Most fertilizer men are honest and most fertilizers, too—but are the mixtures right for your needs?

The ***Agricultural Chemical Works*** are now in business 12 years and have the ***experience*** worth thousands of dollars—they give you ***that*** experience ***free.*** They are as anxious for your business now as in 1893, 12 years ago. Write to our agents in all citrus districts, or to

Agricultural Chemical Works — *Manfrs. of A. C. W. Fertilizers . . .*

901-907 MACY STREET - ***LOS ANGELES, CAL.***

Our Book of Directions "How to Lay Out a Lawn" FREE. Write for it.



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

For Anything in the Plow Line ask us about the

SYRACUSE CHILLED PLOW CO.'S GOODS

Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the

FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.

Have you seen the "New Harrison Wagon?"

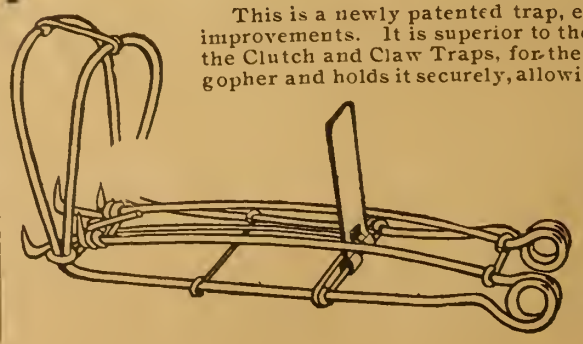
L. A. MARTIN & SON

141-147 Wilmington St. Los Angeles, Cal.

TRAPPED TO STAY TRAPPED

The trouble with most gopher traps is that they permit the rodent to escape after the trap has been sprung. This not only makes the old style traps worthless, but prevents the recapture of the gopher. The only sure means of destroying gophers is with the

Improved C. V. 2-Ring Gopher Trap



This is a newly patented trap, embodying all the latest improvements. It is superior to the Single ring, as well as the Clutch and Claw Traps, for the double ring disables the gopher and holds it securely, allowing no chance for escape.

See that you get the genuine Improved C. V. 2-Ring. Sold everywhere for 25c; or if your dealer does not have them, send us his name and 25c for sample trap or $2.50 for a dozen, which we will forward postpaid.

Falls Manufacturing Co.

14 Drumm St., San Francisco

Queries and Suggestions

EMPEROR GRAPES.

In reply to several correspondents as to pruning and control of mildew of this variety of grapes, our vineyard practice is as follows:

Pruning.—The Emperor vine is a shy bearer unless rightly pruned. When trellised it over-sets with fruit and produces a large quantity of small bunches of inferior grapes, that often fail to ripen. When low pruned it runs to leaf growth rather than fruit. The approved pruning is that of staked vines, with crowns four or five feet from the ground.

In buying stakes we prefer them six feet long, as they can then be re-driven two or more times, for they rot off after a few years. It pays to char or tar the end that goes into the ground.

The young vineyard is simply let grow the first year without stakes; at the first pruning, if the growth is long enough the strongest canes are selected and tied up one, two, sometimes three of them to the stake and they should be at least four feet long. The top buds often look weak but can be depended on to push out promptly when tied up, as vine growth naturally starts out at the top of the shoot when the growth is upright. There will always be vines in a young vineyard that cannot be staked until the second year ;these are pruned to one or two buds eight or ten inches from the ground. Now to return to the young vineyard that we were shaping up—down on the side of the canes that are tied up trim off the laterals except one about ten inches from the ground, cut this to two buds to form a spur for next year, as on this spur we depend for the wood to renew the top when necessary. The next pruning the young vine receives two or three buds of the new growth at the top should be left to form spurs for the top crown; this is continued each year until the crown becomes too much tangled when one spur may be entirely removed and new growth brought up from the lower spur again, to take its place.

In case the vineyard has been low pruned for a number of years and it has to be re-formed into a high staked vine, one or two canes are carried up to the top of the stake and cut off at a bud pointing outwardly and tied firmly. At the low crown cut off two spurs for every cane carried up. If this only leaves one for the low stump the vine is then pruned the next year the same as the young staked vine. If more than one spur is left it is removed the second season, the reason for not taking away more than we provide for is that the excess of sap may break through the tissues of the vine and black knot start to grow on the weakened spot. While this is a brief outline it covers an experience of ten years with the Emperor grape and a long series of experiments entered into to be sure of the best way.

We have found that winter spraying with Bordeaux makes the use of sulphur some years superfluous. This is not in accord with the University Viticulturist teachings, as they believe in two or three sulphurings.

I can only give you our practice here as you ask for that, but would have you consider that we are in the dry interior and that you had best experiment a little for yourself. We spray heavily in the winter with Bordeaux, waiting for a dry time to do it. This takes the carried-over spores of the mildew clinging to the vine; we prefer this as less expensive than the sulphur. Then we watch carefully, and if the slightest mildew shows we use sulphur promptly. At first we were very timid about trusting to Bordeaux but now find that when we have any mildew showing it is along the creek bottom where it is probably an infection from weedy growths. When the use of sulphur is practiced, the first application is at the time of of the first growth, when it is not longer than an inch or so; the second when the fruit is set, and the third when it is needed.

The best quality of sulphur should be used and as finely ground or pulverized as possible. The old way of shaking it on with sacks is wasteful; use small bellows, or, better yet, a knapsack arrangement carried on the back of the man doing the work, with a blast attachment to force the sulphur under, as well as on top of the foliage. —Minna E. Sherman.

WALNUT MARKET.

Editor Cultivator: I have a half ton or more, of soft shell walnuts, and several of my neighbors have similar quantities. Our grocers do not offer what seems to be a fair price. Would you kindly give us the address of some association of the walnut exchange, which would probably either buy or ship our walnuts on fair terms? We know not whom to address, and indeed, are very ignorant about the walnut business.

Should it be necessary to hold our walnuts for a few months; is simply keeping the sacks in a dry place all that is necessary, or is there danger from worms?

If you will kindly answer the above inquiries through the Cultivator, it will accomodate several of us.—B. E., Riverside.

Buyers of walnuts are very shy this year, but we think that if you will write to Percy R. Wilding Brokerage Co., Los Angeles, Cal., they will buy your walnuts. The associations do not buy and ship only for their members.

Walnuts can be kept in a cool, dry place until the weather begins to get warm next spring, say about April 1st, without any damage. After that there is some danger of them turning rancid. There is no danger from worms, unless the shells have opened from being excessively dry, and have stayed open several days.

WILD MORNING GLORY.

Editor Cultivator: Morning glory and how to kill it seems to be a puzzle to some of your correspondents. Expensive methods have been suggested, such as salt, covering the ground with tar paper, etc. I will give a simple method which I know to be infallible. As soon as the weed starts in the spring, go over the ground with a common weed cutter, cutting below the surface four or five inches, follow it up every week for one season and you wil have no more trouble with that pernicious weed. Do not forget and let a week pass and allow the weed to come to the surface and breathe, or the work will have to be done all over again. The philosophy of the method is very simple. All plant life must have air and sunlight; deprive them of this and they die.

The Cultivator contains a large amount of valuable information for the wealth producers of the Pacific Coast and I have given this item hoping it may be useful to some of my fellow tillers of the soil.—H. B. Lydiard, Cupertino, Cal.

JOHNSON GRASS.

Editor Cultivator: What is the relative feeding value of Johnson grass. What are the best means for its extermination. Is it worth the trouble to prepare infested ground for a better crop?—W. W. C., Pasadena.

The feeding value of Johnson grass is very high and in many parts it would be extensively grown did it not spread everywhere, even where it was least desired. The best means for its eradication is plowing and constant harrowing and cultivation during one summer, leaving the land without a crop for the one season. It is not hard, as many suppose, to rid land of this pest if treated in this way. If you attempt to dig it out by the roots it will prove an insurmountable task. The theory is that no plant can long survive without both top and root. Keep the tops cut off a little under the surface, so that it has no chance to breathe and you will soon be rid of it. It is a question of eternal vigilance for one season. The land certainly is worth preparing for another crop, anywhere in your section, although the land is evidently not near the address given (Pasadena) for Johnson grass seldom thrives on the higher lands.

VINES ON HOUSES.

Editor Cultivator: Will you kindly answer the following questions? 1. Do you believe in winter cultivation in orchards? 2. Wish to paint house; vines and climbing roses cover porches and side of house. Will cutting them down so as to give a chance to paint injure them?—G. R. S., Santa Ana.

1. We do.

2. Cut all such vines to long main shoots, relieving them of all side shoots. When you replace them they will, in case of such pruning, cover with a skeleton growth nearly the same area as before. New side growths will quickly appear.

WALNUTS AND APPLES.

Editor Cultivator: What will determine, without much trouble, the suitability of lands for apples and walnuts, especially in the Downey district.—W. W. C., Pasadena.

Any heavy lands around Downey should be good for apples. The lighter lands should be chosen for walnuts, but you must avoid getting down in the cold river bottoms in some districts. The warmer and freer from frost a section is, the better it will be found for walnuts.

DEWBERRY, BANANA AND LILAC.

Editor Cultivator: (1) Please tell me how to prune dewberries which were planted last spring and have made a good growth. (2) Should the side shoots of the banana be allowed to grow around the old stalk? (3) What do lilacs require in the way of fertilizers, etc. Our bushes do not seem to thrive; they send out new buds and leaves and these wilt and drop and a new lot appears.—G. B., Upland.

(1) Better leave your dewberries now, until after next spring's crop is off, when you should cut the canes off at the ground. They will then make the growth necessary for the bearing of the next year's crop.

(2) Certainly; the beauty of the banana is best shown in a large natural clump; allow it to grow as large as it will, as after fruiting the stalk dies and the younger ones are needed to take its place.

(3) We do not know the specific trouble with your lilacs, but the plants seldom thrive in our state as they do east of the Rockies, particularly in the hot dry interior of the southern part. They like partial shade, a cool place, a fair soil but somewhat damp. Note if the leaves are troubled with a white mealy fungus or if borers are in the branches or roots. We fear that both your air and soil is too dry.

IT'S PENNY WISE

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow St., Los Angeles.

PROSPECTOR'S EXCURSIONS

from LOS ANGELES to

NIPPENO,	round trip,	$20.00
GOOD SPRINGS	"	20 95
LAS VEGAS	" "	23 60
MOAPA	" "	27.55
CALIENTE	" "	33.45

VIA THE

Salt Lake Route

These tickets will be sold daily, commencing Nov. 1st., with a return limit of 30 days. Mining literature gladly furnished free. Los Angeles City Office, 250 South Spring St.

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt. T. C. PECK, Ass't. G. P. Agt. Los Angeles, Cal.

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

THANKSGIVING.

Let not this day go forth uncheered,
Though all the world looks sad;
Within our hearts are life and light,
Be thankful and be glad!

Let praises now from land and sea,
Rise on this joyful morn;
In glad thanksgiving strong and free,
For Nature's plenteous horn!

—Louise Lewin Matthews.

In Love's Own Way

It was delightful to be at home again. I had been away so long that I felt myself almost a stranger, even with father and mother.

The little town had grown miraculously, I thought, and the dear old home place had changed, too, and very much for the better. The lawn, where there used to be so many sand burrs, was beautiful now, and the trees had grown so that the house stood in a cool shady grove. How old that made me feel! I could remember when those trees came up from the seed, and I used to be told not to step on them when I went out to play.

Even aside from the fact that it was home, this was an ideal place to rest, and rest was what I needed. I had been working very hard and was almost broken down.

The family were all sympathetic and ready to do anything for me. I found a hammock and cushions placed for me in a shady place and a pretty room, my own dear old room, all refitted for my use. The room and the hammock were very satisfactory, but it made me feel a little oddly to find a carriage awaiting me at the station, with pillows in the back seat. The home people had got the impression that I was really an invalid.

I accepted their attentions, however, as gracefully as possible, and since outdoor air was considered best for me, the hammock became my headquarters for the summer.

I had a dreadful experience there one evening. Father and mother had gone to a neighbor's, and my sister, Ella, was at the choir rehearsal.

I was watching the sun go down when they went away, and mother said that as it was warm I had better stay out until Ella came home (she would come first), and then she would carry in the cushions for me. So after the sun had set and it was quite dark under the trees, I still lay there thinking about the work I was to take up in the fall.

Presently I heard the gate shut, and then footsteps on the walk. I knew at once that it was Ella and the baritone. Mother had said when I objected to the child going alone, that he would bring her home.

I sat in the hammock. It was very thoughtful in Ella to bring him in. She knew that I had not seen him since my return,, and Mr. Smith and I had been once very good friends.

To my astonishment they did not come to the hammock, but sat down on the bench near the lilac bush. What could the child be thinking of? Had she forgotten me? Well, he would ask for me in a moment, any way, so I sat still and waited.

They did not say a word for several minutes and then he said very softly, "Ella." I started in amazement. What made him talk in that tone, and why didn't he call her Miss Westford? I felt indignant at the impertinence and wondered why Ella didn't resent it.

There was perfect silence for some time. Then the baritone said softly and gently, "Darling." My eyes flashed. Would Ella allow that ill-bred fellow to go on? She surely ought to know better. I was so excited that I did not hear what she said at all, but I knew it was not what she ought to have said, for when he spoke again it was in the same loving tone, though I could not hear his words.

Unmistakably it was a love affair. He had evidently talked so to her before. How perfectly ridiculous! Why, Ella was a mere child, only eighteen. I was years older, and no one had ever talked that way to me. What could mother be thinking about to allow such a thing? It must be that she did not know it. Well, I would see that it was stopped at once. That was my duty, of course. Ella must be sent to school. She ought to have been sent before.

The baritone, too! Why, he was years older than Ella. He was just about the right age for—he was older than I. He was a fine fellow, I used to think. Ella, indeed! He must be flirting with her. No, he could not be. He was too good for that.

My cheeks burned and my heart beat fast. How my head ached! Why didn't mother come? I leaned back in the hammock to compose myself.

"Sit closer, dear," said the baritone. "I want to talk to you."

Suddenly I realized what I was doing. I, Elizabeth Jane Westford, actually eaves-dropping. But what could I do? If I spoke they would know I had been listening all the time. I buried my head among the cushions and held my hands over my ears.

I was so miserable! And the tears were getting on the rose-colored cushion. Even in my distress I wondered if it would fade.

I had not noticed before how warm the evening was. At last I could endure the cushions no longer and sat up with my hands still over my ears. The moon had risen and I could see two people coming down the walk. They stopped at our gate. Was it—could it be—yes, it was Ella. "Mother," she called, "is that you under the lilac?" Then in a lower tone, "Yes, it is. Good night, Mr. Smith; thank you."

I dropped back dazed. Father and mother on the bench by the lilac! I had forgotten that mother's name is Ella. How lover-like they were! It was perfectly charming. I woudered why they were going in. The moonlight made the evening pleasanter than ever.

Then mother called to me that it was getting damp, and I was surprised when I gathered up my books to find that I was crying again. I did not know why, I am sure I was very happy.

That was early in the summer. I know father's voice better now—yes—and the baritone's too. He has a very fine voice. He says "darling" sometimes, as father does, too.

Ella is not going away to school this fall. She will finish her course in the high school first.

I am not going to teach, either. I—well—you see, Mr. Smith thinks I need more rest.—Business Woman's Magazine.

ENCOURAGE THE BOYS.

By. J. H. Worst, President of the North Dakota Agricultural College.

If you want your boy to be a farmer, give him an insight into the best side of farm life. Don't shut him out as a beast of burden. Hard work will do him good, provided there is a desirable end in view and in which he has a logical interest. Work that interests a boy loses the element of drudgery at once. He will work twice as hard and enjoy it. Enjoyable work is the same as play, for play is nothing but the exercise of enjoyable energy.

Encourage him to become a farmer. There will always be encouragement enough to take him away from the farm if he has a better talent for business or a profession. The great danger is that he will be inveigled into something else when nature intended him for agricultural pursuits. There is no higher or holier or more honorable profession than agriculture. There is noue that promises better average opportunities for success. There is no profession that requires more brains or candid thought. The farmer may have to blister his hands occasionally, but the professional man must blister his brains contiuually or make a failure of life. Many of them do both.

Give him a good education. Send him to the Agricultural College where he has access to those studies that have a direct bearing upon agriculture as well as those that will give him culture and refinement. In the end he will be proud of the farm and prepared to enjoy his work. His enjoyment will be so keen that his work will be play.

The work at the Agricultural College is not a preparation for life—but a part of life. He glides almost imperceptably from the one to the other. He continues to do things he began doing while in College. He will do them better and more naturally for having made them a part of his education. Having learned to do things he will be a positive factor in the industrial world—adding to instead of depleting its material resources. He will be a producer instead of a mere consumer of products.

A little encouragement now and a little good sense in handling the boy and you will be as proud of him as he will be of you. Give him a chance to make the most of himself and you will never regret it. The country is in need of men that develop from such boys.

If we would get along always with best results we should apply the Golden Rule to all the relationships and amenities of life.

A bag of hot sand relieves neuralgia.

REMEMBER THE WIFE.

When a farmer gets on in life, says Edward Walden in the Geyersville Gazette, and feels he has a competence, he turns his farm over to his sons or nephews, or rents it, and retires from active life, and takes it easy for the rest of his existence. This is as it should be, but what about the wife? When does she retire from her duties of caring for the household? Alas! that time never comes while she has health and strength. If there are daughters, they sometimes assume the cares of the house and sometimes they do not, and in any event they are likely to marry and leave home, so the burden falls on the wife as before.

When the master of the household is in a position to retire from labor, why shouldn't the mistress also retire from her cares and turn her work over to a hired person, and have leisure to enjoy life in her middle age? She would find plenty of enjoyment in taking up many pleasures which for lack of time she never had the opportunity to take advantage of before; in fact more pleasures await her leisure than are open to her husband, as he has always been in the busy world and has had variety in his life which was lacking in the home existence of his wife. Men should think of this, and as they relax the cares of life and take more leisure, let them remember the wife at home and see that she also has things easier and has time for the pleasures of life.

LEARNING.

The new cook was helping her mistress to prepare dinner, says the New York Times. All went well until the macaroni for the pudding was brought out. The cook looked with surprise as she beheld the long white sticks. But when they were carefully placed in water she gave a chocking gasp:

"Did you say, missus?" she said in an awed voice, "that you are going to make puddin' out of that?"

"Yes, Jane," was the reply, "that is what I intended to do. But you seem surprised. Have you never seen macaroni cooked before?"

"No, ma'am," answered the cook, "I ain't. The last place I was at we always used them things to light the gas with."

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trade-marks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phone 347

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

Ostrich Plumes MADE OVER
We clean, redye, make over and curl boas, tips, plumes, etc., and add new top feathers to plumes when necessary. Send your work at once or write for prices. Satisfaction guaranteed.
CAWSTON OSTRICH FARM AND FACTORY
P. O. Box 1072, South Pasadena, California

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

Cookery Recipes

Cream Walnuts.—Take the white of an egg, add to it an equal amount of cold water, and stir in confectioner's sugar until it is stiff enough to mold into shape with the fingers. Be sure to use confectioner's sugar. When the cream is of the right consistency, it does not stick to the hands. Add the flavor when stirring in the sugar. Mold into balls. Have ready English walnuts carefully divided into halves and place a half nut meat on each side of the ball, pressing it into the cream. Lay aside to harden.

* * *

Nut Creams.—Chop fine meats from pecan nuts or hickory nuts. Make a foundation cream as for cream walnuts and flavor with vanilla. The cream for this candy should be no thicker than cake batter. Mix thick with the nuts and drop from a spoon on oiled paper, leaving it rough on top. Other nuts may be used, or dessicated cocoanut. If the latter, make the cream still softer.

* * *

Chocolate Creams.—Make a foundation cream as for cream walnuts and flavor with vanilla. Mold into drops, and, holding them on the tip of a long sharp hat pin, dip them into dissolved sweet chocolate. Lay on oiled paper and set in cool place to harden.

* * *

Sultan Chocolates.—Make foundation as for cream walnuts. Have ready one cup grated chocolate (the unsweetened kind,) mix with ground cinnamon and cloves to taste. Add this mixture to the cream while it is soft, and then add sugar until it is hard enough to mold.

* * *

Pumpkin Pie or Custard.—Wash and dry the pumpkin, remove the seeds and soft inside, grate without peeling on a moderately fine grater and to each cup of the grated pumpkin add 1-2 cup sugar, one egg, well beaten, one tablespoon molasses, one teaspoon ginger, 1-2 teaspoon cinnamon, a pinch of salt, and one coffee cup rich milk. Line deep pie plates with rich crust, fill two-thirds full of the custard, and bake in a moderate oven for 1 1-2 hours. This mixture is also nice baked in custard cups.—A.

* * *

Mince Pies.—Three pounds round of beef, 1 beef tongue, 2 1-2 times as much coarsely chopped apple as there is chopped meat, 5 pounds sugar, 2 heaping teaspoons salt, juice and grated rind of 2 lemons, 2 quarts boiled cider, 1 pound butter, 1 heaping teaspoon each of ground cloves, allspice, mace and cinnamon, 2 grated nutmegs, 2 pounds currants, 2 pounds raisins, (seeded), 2 quarts canned peaches, and beef stock to moisten the meat. Mix thoroughly, adding cider or diluted lemon juice enough to make the meat considerably more moist than necessary when done, as it dries away in cooking. Place in the oven, cover and cook until tender, but no longer. Stir often while cooking. It will take an hour or two after it is thoroughly hot. About half an hour before the meat is done, add the peaches. These are not necessary, but they give a delicious flavor. Add a little butter and sugar when making up into pies. This is an ideal mince meat.—N. M. P., in Farm and Home.

* * *

Baked Eggs.—Break 8 eggs in a well-buttered dish, put in pepper and salt, bits of butter, and 3 tablespoons of cream, set in oven and bake about 20 minutes; serve hot.—Mrs. C. C.

* * *

Feather Cake.—One cup sugar, half cup sweet milk, one egg, one tablespoon butter, one cup flour, a pinch of salt, one teaspoon baking powder, flavor to taste. This is excellent.—Winnifred.

* * *

Mother's Corn Bread.—One teaspoon salt, one tablespoon sugar, one teacup sour milk; beat one egg and add to mixture, with one cup each of flour and corn meal, and a tablespoonful of lard or butter melted. Stir briskly before adding one teaspoonful of soda dissolved in hot water. Bake in a quick oven for fifteen or twenty minutes. Instead of the sugar, New Orleans molasses may be used, enough to slightly color the batter. It is much better to add the soda last, when making all hot breads.—Winnifred.

NO GREAT EFFORT THANKSGIVING.

Again our National Thanksgiving period is at hand, and the busy house wife will be engaded entertaining or being entertained. To the farmer these lines are suggested.

The farmer's wife is confronted by a somewhat different proposition from her city sister. The latter has delicacy stores to order from while the former must, in a general way, work out her own plans, prepare her own dinner and act as hostess in addition. Many a head will ache on Friday morning, the result of over work and nervous excitement occasioned by the strenuous endeavor to have a feast, and a jubilee beside . We wish it were possible to persuade every house wife, and especially those who do their work unaided, to entertain simply. We know this is hard, when for many years this day has been a day of lavish display and expenditure to say nothing of days of hard work and of sleepless nights for fear the dinner would not be a success. Then, too, we have such an endless variety of good things to select from. Nearly every country on the globe contributes something that tempts us. But would it not be more in keeping with the sentiment of the day to use only American products in preparing our Thanksgiving dinner?

We raise enough on our various ranches in California to furnish a sumptuous Thanksgiving dinner—the cranberry alone excepted. We can call on our poultry yard for fat turkeys, ducks or chickens. We can get vegetables to suit the occasion and we can, if we choose, eat our holiday meal under the graceful branches of the California pepper.

The trouble with our American women is, that when we come to a holiday dinner they over crowd the table. They prepare too sumptuously. A few well chosen and well cooked dishes are much to be preferred to a greater number carelessly selected and cooked. A turkey or chicken or duck, of course, we must have. It would not be Thanksgiving without it, but let this be the crowning dish. Have it well fattened and carefully roasted. With it serve cranberry sauce, and not more than three vegetables—one of these in the form of a salad. A dessert that may be made the day before, with fruit, nuts and confections, if you choose, complete the menu.

Pay a good deal of attention to the setting of the table. Make it plain, but tasty in appearance. Go out in the garden, gather a basket of roses, carnations, and vines, or go to the hills and bring down some evergreen ferns or holly berries, arrange the ferns flatly on the table forming a mat.

Place a basket in the center of the mat and fill with fruit. Arrange the leaves around the edge of the basket and let the vines trail over the fruit. Fasten a cluster of three fern fronds invisibly to each corner of the table and your table decorations are complete.

Serve the dishes hot, by all means let the fowl be hot, and also the vegetables and the coffee. Then when seated about the table, eat slowly, let the nervous strain go away with the meal, so that when the dinner is done there may be a feeling of rest, rather than of worry pervading the entire company.

Let joy and thankfulness abound, joy that we live and can make our friends happy; thankful that our country is at peace, our homes preserved, our families healthy and are blessed with the comforts which industry brings. Try these simple suggestions, readers of the Cultivator, and tell us by and by if you have not profited thereby.

THE WOMAN FARMER.

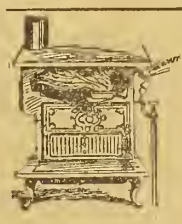
In these progressive times the handle of the agricultural tool is coming to know the grasp of the woman's hand almost as well as the needle or the broom, and many women are making reputations as farmers of progress. Among the agriculturists are wives, widows and maidens, women who have begun with small means and women of wealth who have entered the ranks for the pleasure they could get out of it, or for philanthropic purposes. One and all are bright, intelligent women, and the large majority are educated and cultured. Some are in partnership with men, others own and manage farms for themselves, while many manage farms for other people. Careful investigation shows that these women have distinguished themselves by their skill and executive ability.

In some important specialties, such as flower seed growing, poultry raising, fancy dairying, and the growing of raisins and nuts, they have been successful pioneers. Their farms are scattered all through the country, on the uplands and in the lowlands, among the valleys and even on the mountainsides. Some are cultivating their thousands of acres, using the steam engine as a plowman. The majority conduct farms of more than 100 acres, while a few are contented with a single acre, depending on the spade and hoe.

Women lead in poultry culture in which they began more than a decade ago and it has been an uphill struggle against prejudices. Few, it is said, make a failure of it, and the time, they claim, will soon come when women will control the industry here in America. It pays a greater interest on the investment than any other branch of farming.

A HOME MADE CEMENT.

A strong cement which may be used for mending stone jars, stopping leaks in kettles, to fasten in lamp tops and for all sorts of other purposes is made of glycerine and litharge, made to the consistency of thick cream. This cement will resist the action of hot and cold water and is well adapted for the mending of all sorts of things which are intended for use as well as for ornament, and therefore are supposed to be fit for hard ware. The one point to be remembered is that the cement takes a long time to dry. So after the repair has been made it is well to set the jar or whatever it may be away on a shelf for a week or more that the cement may become perfectly hard before it is used.—Farmers' Review.



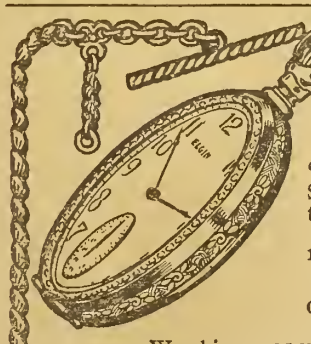
BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.



WATCH PRICES THAT WILL INTEREST.

The best 20 year guaranteed Gold Filled Cases—"Boss", "Crescent", "Fahys", 'Dueber", etc. Standard American Movements—"Elgin", "Waltham", etc. You select the case and movement.

	7 Jeweled Movement	15 Jeweled Movement	17 Jeweled Movement
No. 1118, 16 Size, Open Face, Man's Watch	$9.00	$11.50	$17.00
No. 1107, 0 Size, Open Face, Ladies' Watch	$10.00	$14.00	$18.00

We ship on approval and pay all charges whether you buy or not. Write at once for our Complete Jewelry Catalog No. 21 Free.

BROCK AND FEAGANS

Jewelers LOS ANGELES, CAL. Watchmakers

Oh! What A Difference

IN THE MORNING

Especially wash day morning when you use a

WHITE LILY WASHER

JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

SEED COMPANY INCORPORATES.

The F. Gilman Taylor Seed Company has incorporated with a capital stock of $5000, $2750 of which has been paid in. The directors are: F. G. Taylor and Cora S. Taylor of Glendale; Walter R. Lett of San Francisco; Stanley F. McClung of Los Angeles and W. J. Williams of Pasadena. Their place of business will be, as heretofore, Glendale, Cal.

San Luis Obispo County Lands. Best and Cheapest in the State. Rain fall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

A Sharp Razor
Makes Shaving Easy

It is a pleasure to shave when your razor is sharp. With "Every Man's Dry Hone" you can give your razor a keen cutting edge with a few strokes. It is a perfect hone, made for home use, and guaranteed to give satisfaction. No water or oil necessary—self-lubricating. Always ready. Mailed on receipt of $1.00. Send in your order now, while you are thinking about it. Be ready for your next shave.

REDLANDS HONE CO. 70 Orange St., Redlands, Cal.

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES	2½	Horse Power,	$125 00
	4	" "	185.00
	10	" "	368.00
	15	" "	556.00
	20	" "	731.00
	30	" "	1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
710 N. Main St. - Los Angeles, Cal.

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No 12.

BYRON JACKSON MACHINE WORKS
411 Market St. *San Francisco, Cal.*

Los Angeles Markets.

Los Angeles, November 23, 1905.

Butter.

B. of T. Creamery, per roll	67½
Valley Creamery, fancy	65@67½
Valley Storage	52½
Fancy Dairy	50@52½
Cooking	18@21

Cheese.

Cal. 3-lb hand	19
Cal. Young America	18
California Anchor	17
Northern	16
Domestic Swiss	18
Domestic Swiss	16½
Imported do	28

Eggs.

Eggs have again advanced.

Eggs, Fresh Ranch	45
Eastern and Storage	33@35
Seconds	25

Poultry.

Fryers, 2½ lbs	15
Broilers, under 2 lbs, per lb	17
Young Roosters, per lb	15
Hens, per lb	15
Ducks, per lb	12
Geese	12
Turkeys	20

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt	5.75
Prime Steers, cwt	3.50
Cows, cwt	2.85
Calves, cwt	4.50
Sheep, ewes, per head	4.00
Lambs, do	3.2o
Wethers, per head	4.50

Potatoes.

Northern, per sack	1.35@1.50
Locals, per cwt	1.00
Sweets, white, per cwt	90@1.00
Sweets, yellow	1.00@1.40

Vegetables.

Onions, Silver Skins, sks	$1.40
Onions, yellow, per cental	1.30
Beets, per 100 lbs	75
Cabbage, per sack	50
Cauliflower, per doz.	30
Bell Peppers	4@5
Wax Beans	5
Cucumbers, per box	1.00
String Beans	5
Green Onions, doz bunches	20@25
Carrots, doz. bunches	30
Turnips, doz. bunches	25@35
Garlic	6@8
Celery, dozen	25@35
Peas, per lb	3@3½
Egg Plant	4@4½
Chili Peppers, green	2@2½
Chili Peppers, dry	15@20
Tomatoes, local	25@35
Parsley, per doz. bunches	30
Summer Squash, bx 20 lbs	25@35
Green Corn, per sack	75@1.25
Lima Beans	4½@5
Rhubarb	2½

Citrus Fruits.

Lemons, standard	1.50@2.00
Lemons, fancy	2.25@3.00
Grapefruit	1.75@2.50
Navels	2.50@3.00

Fresh Fruits.

Apples, Bellefleur	85@1.35
Fall Pippins	1@1.25
Apples, 4½-tier Rhode Is. Grn	90@1.10
Apples, Red Pearmain	1.15
Apples, Gravensteins	90@1.10
Strawberries	10@15
Pomegranates, per crate	75@85
Peaches, per box	75@1.25
Plums	90@1.25
Figs, per box	50@75
Black Figs	75@1.00
Muscats	90@1.75
Tokays	1.25@1.35
Cornichons, lb	5@6
Quinces, per box	1.50
Pears, Winter Nellis, per lb	3
Casaba Melons, large crates	2.00@2.50
Watermelons, doz	35@1.75
Guavas, per basket	4@6

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11; fy 8½; ch, 7½.

Peaches, fy, 8½@10½; ch, 7½@8.

Santa Clara Prunes, 30-40, 8c; 40-50, 7c; 50-60, 6c; 60-70, 5½c.

Loose Muscatel Raisins, 2-crown, 4½c; 3-crown, 5c; 4-crown, 6c.

Beans, Dried.

Limas	4.25@4.50
Pinks, fancy	2.50@2.65
Lady Washington	3.00@3.10
Large Whites	3.00@3.25
Black Eyes	5.50@6.00

Nuts.

Walnuts, No. 1 soft shell	14½
Do, No. 2	8@10
Do, No. 1 hard shells	12
Do, No. 2 hard shells	10
Almonds, paper shell	16@17½
Almonds, soft shell	17@17½
Peanuts, California	6@7½
Peanuts, Eastern	7½@8

Honey

Honey, comb frames	14@15
White, strained, per lb	7
Amber	11
Beeswax	22@25

Hay.

Barley	12@14.50
Alfalfa, local	14
Alfalfa, Northern	11@12.50
Wheat	13.50@14.50
Tame Oat	11@18.50

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	$1.40@1.45
Barley	1.10@1.13½
Corn	1.25@1.30

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	$1.30
Feed Corn Meal	1.55
Middlings	1.40
Wheat	$1.65@1.70
Cracked Corn	$1.50
Corn	$1.45
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

Swedish school children under the guidance of their teachers annually plant about 600,000 trees.

By Dec. 1 the Los Angeles office of the Cultivator will be moved to 115 No. Broadway, (up stairs).

San Francisco Markets.

San Francisco, Nov. 22, 1905.

Dairy.

There has been scarcely any change in the butter market during the past week, the better local grades ruling a cent higher, storage remaining unchanged.

BUTTER—Fresh California, extra, 26½, firm; firsts, 24c, steady; seconds, 23c, steady.

Eastern Extras, 24½c, steady; firsts, 23½c, steady; other grades nominal; Ladles, extras, 20c, steady; firsts, 19c steady; other grades nominal.

Storage—California extras, 24½c, steady; firsts, 23c, steady; Eastern extras, 24c, steady; firsts, 23c, steady; Ladies, firsts, 20c firm; firsts, 19½c, steady.

CHEESE—New California, fancy, 14c, steady; firsts, 13½c, steady; seconds, 12@12½c, steady; Young America, fancy, 14c, firm; firsts, 13½c, firm; seconds, 12½c, firm.

Eastern—Cheddars, 15½c, firm; Flats, 16c, firm.

Western — Cheddars, 14c, firm; Twins, 14½c, firm.

Storage—California fancy, 12½c.

Eggs.

Eggs have remained as for a week past with the exception of an advance of one cent on fresh ranch.

EGGS—Fresh—California ranch, selected, 51c per doz., firm; firsts, 46c, steady; seconds, 35@36c, weak; thirds 34c, steady.

Eastern—Selected, 27½c, firm; firsts, 24@25c, firm; seconds, 20c firm.

Storage—California selected, 27c, steady; firsts, 25c, steady; seconds, 24c, steady; California Store, selected, 25c; firsts, 24c. Eastern, selected, 25c, firsts 23@24c.

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; Young Roosters, $5@6; fryers, $4.50@5; Broilers, $3@4; Hens, small, $4.50@5; large, $5.50@6.50; Live turkeys, per lb 18@19; Dressed Turkeys, 20@23; Ducks, old, $4.50@5; young, $4.50@6; Geese, per pair, $2@2.25; Goslings, $2.25@2.50; Pigeons, per doz, old, $1@1.25; young Pigeons, $2@2.25.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, extra, $1.50@1.75; fancy, $1@1.35; common to choice, 50@90c.

Pears—Per box, Winter Nellis, $1.75@2.25; other varieties, 75c@$1.25.

Table Grapes—Per small box or crate, 85c@$1.50; open boxes, $1.50@$2, as to variety.

Persimmons—Per box, 75c@$1.

Quinces—Per box, $1@1.50.

MELONS—Cantaloupes—Per crate, $1@2; Nutmeg Melons, per box, 75c@$1.50.

BERRIES—Raspberries—Per chest, $10

Strawberries—Per chest, Longworth $8@9; large varieties, $4@5.50; Santa Clara, $6@8.

Citrus Fruits.

CITRUS FRUITS—Per box: Oranges, Navels, $1.25@3; Seedlings, $1@1.50; Lemons, $1.50@4; Limes, $3.50@4; Grape Fruit, $2@3; Tangerines, $1.25@2.

Vegetables.

VEGETABLES—Tomatoes. per box, 40@75c; Southern, 75c@$1.00; Green

Peppers, per box, Chili, 65@90c; Bell, 85c@$1.25; Beans, per lb, Green 9@10; do, Wax, 10c; Lima, 8@9c; Garden 1.30.

Peas, per lb, 6@6½c; Cucumbers, per box, $1@1.50; Summer Squash, per box, Southern, 75c@$1.25; Egg Plant, per box, 75c@$1.25; do, Southern, per lb, 5@7c; Garlic, per lb, 5½@6c; Marrowfat and Hubbard Squash, per ton, $15@20.

POTATOES—Per ctl: River Burbanks, 70@90c; Salinas Burbanks, $1@$1.40; Oregon Burbanks, $1@1.20; Sweet Potatoes, Merced, $1.40@1.50.

ONIONS—Per sk, Yellow, $1.10@1.20.

Dried Fruits.

Apples—Evaporated, fancy, 9½c; choice, 8½@9c; standard, 7¼c.

Plums—6½@9c, as to variety and quality.

Peaches—Crawford , fancy, 9½c; choice, 8½@9c; standard, 8@8¼c; peeled, 15½@18c; Muirs, fancy, 9½c; choice, 8½@9c; standard, 8¼c.

Apricots—Royal, fancy, 9½@10c; choice, 8½@9c; standard, 8c; Moorpark, fancy, 11@12c; choice, 9@10c.

Silver Prunes—7@9c.

Nectarines—7½@8½c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c: 4-size, 3½@4c basis; small and large size, 4@4½c basis.

Figs—Per lb: White, 10 lb boxes, fancy, 60c; choice, 55c; standard, 50c; layers, 50@65c; bulk, fancy, 4c; choice 3¼c; standard, 2¾c; ungraded, 3½c; Black, 3@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12@12½c; choice, 9@10c; standard, 8c.

RAISINS—Prices per lb, f. o. b. Fresno, are as follows: 1905 crop: Seeded, per pkg: Fancy, 16-oz 8c; do, 12-oz, 6⅝c; choice, 16-oz, 8c; do, 12-oz, 6⅜c; fancy bulk, per lb, 8c; choice, do, 7¾c; Loose Muscatels, 50 lb bxs, standard, 4-crown, 6½c; do, 3-crown, 6c; do, 2-crown, 5¾c; do, seedless, 4½c; do, floated, 4¾c; Thompson's seedless, unbleached, 5½c; bleached, standard, 7c; do, choice, 8c; do, fancy, 9c, do, extra fancy, 10½c; seedless Sultanas, unbleached 4c; bleached, standard, 5½c; do, choice, 6c; do, fancy, 7c.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Beans and Peas.

BEANS—Prices per ctl: Large White, $2.25@2.60; small do, $3@3.25; Pea, $3.25@3.75; Lima, $3.40@3.50; common shipping points, $3.20; Red, $3@3.50; Pink, $1.75@2.15; Bayos, $3.50@3.75; Blackeyes, $4.40@4.60; Red Kidney, $3.50@4; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $1.75@2; Green, $1.75@2.25; Field, $1.50@2.

Live Stock.

Conditions throughout all departments of the Live Stock market are purely a reflection of the features thoroughly reviewed for some time past. Sheep continue in scant supply and rule strong at full quotations and A1 Steers and Lambs share second place interest at firmly held rates. Calves and Hogs are plentiful at the familiar prices.

CATTLE—No. 1 Steers, 6½@7; second quality, 5½@6c; third quality, 5@5½c; No. 1 Cows and Heifers 5@5¼c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c; Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 4¼@4¾c. gross weight; Ewes, No. 1, 3½@4c, gross weight.

LAMBS—Suckling, $2.75@3.25 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 80 to 130 lbs., 5¼c; 130 to 250 lbs, 5½c; 250 to 350 lbs., 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hops.

The price of desirable grades is nominal at 8@12c per lb, according to quality.

Hay and Cereals.

HAY—Per ton: Wheat, $11.50@16.50; Wheat and Oats, $11@15.50; Oats, $9@13.50; Barley, $8@11; Clover, $7@10; Alfalfa, $6.50@9.50; Stock, $5@7.

WHEAT, No. 1 Shipping, per ctl, $1.35@1.37½; inferior grades, $1.20@1.32½; White Milling, good to choice, $1.40@1.43¾; and $1.45 for fancy.

BARLEY—Choice No. 1 Feed, $1.17½@1.20; some fancy grades up to $1.21¼; common to fair, $1.15@1.16¾; inferior grades, $1.10@1.13¾; Shipping and Brewing, $1.23¾@1.27½;

OATS—Good to choice White, $1.38½@1.50; Red, 1.50@1.62½ for choice to fancy; $1.25@1.40 for common to fair; Black, for seed, $1.60@1.75; lower grades, $1.25@1.55.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.32½@1.35; small, do, $1.55@1.65; Eastern Yellow, $1.37½@1.40; White, $1.32½; Mixed, $1.35.

RYE—New, $1.45@1.52½.

CITRUS MARKETS

Eastern orange markets are somewhat lower, with an over supply of green, sour fruit. Best navels are still arriving from Northern California. Shippers should hold their fruit until in better condition, as under ripe fruit is not wanted. Floridas are in fair supply, but will be cleaned up by January 1st. They command uniformly lower prices than California navels. Lemons are plentiful and slightly lower.

New York.

Three carloads each of lemons and navels offered Monday and all sold at good prices. Moore Estate navels from Exeter averaged $2.67 for ex fy, and $2.52 for ch, while Mariposa and Mistletoe brands brought from $2.76@3.05. Lemons—Independent, fy, Highland, $4.00; Corona Queen, Spence Ft. Co., Corona, $3.36; Silver, ex fy, Arlington Hts Ft. Co., Prenda, $4.27; Palm Tree, same, $3.05.

Three cars of navels sold Tuesday, all from Exeter. Mariposa, ex fy, Mrs. M. E. Newhall, $2.35@3.10; Moore Estate, ex fy, $2.40@3.35; same, ch, $2.35@3.15. Two cars of lemons sold as follows: Flower, ex fy, Claremont, $3.50@4.25; Squirrel, fy, Arlington Hts Ft Co., Prenda, $3.45@3.65.

Wednesday brought much green fruit and prices were easier. Moore Estate, fy, sold at $2.25@3.10. Lemons steady with easier demand on account of colder weather.

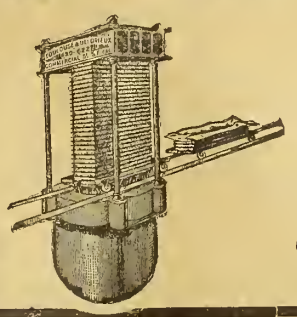
Chicago.

Oranges and lemons both quiet Monday. Lemons—300, $3.25@3.50; 210-240, $2.50@3; 420, $3.25@3.75; navels, $3.00.

Oranges arriving Tuesday rather green and sour and in over supply. Prices unchanged. Lemons weak at former quotations.

Wednesday brought more oranges than the demand could absorb.

Waite, Bailey & Lynch, buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, etc. Otto gasoline engines, all sizes, to 200-H. P., better built, more economical, therefore superior to all others; prices and terms that will insure due consideration. 943-945 N. Main st., Los Angeles, Calif.

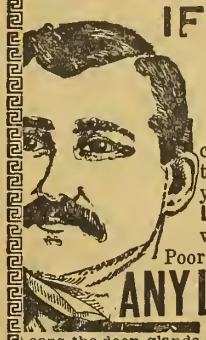
WINE AND OIL MACHINERY
A SPECIALTY

Presses for All Purposes.
Complete Plants Fitted Out.
TOULOUSE & DELORIEUX
618 Commercial St. San Francisco
Catalogue Upon Application

Write for catalogue
AMES PUMPS ARE STANDARD
At Ames, Galt, Cal.

MALTHOID ROOFING
PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.
THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING
PAPER
MANUFACTURED BY
PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

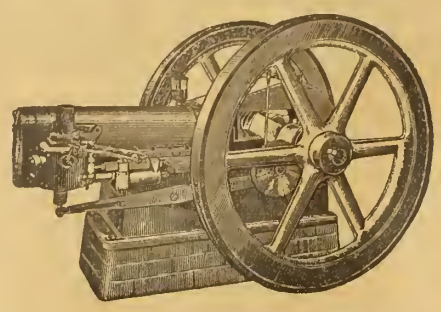
RUBEROID ROOFING
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.
BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

I WILL GIVE $1000
IF I FAIL TO CURE ANY CANCER OR TUMOR
I treat before it Poisons Deep Glands or Attaches to Bone.
NO KNIFE OR PAIN, NO PAY UNTIL CURED.
NO X-RAY OR OTHER SWINDLE.

A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. 3000 CANCERS cured on people you can see and talk with. ANY TUMOR, LUMP OR SORE on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.

ANY LUMP IN WOMAN'S BREAST IS CANCER
It does not pain until almost past cure, and if neglected it ALWAYS poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK, sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.
DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]
23 AND 25 THIRD ST., NEAR MARKET ST., SAN FRANCISCO.
PLEASE SEND THIS TO SOME ONE WITH CANCER.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

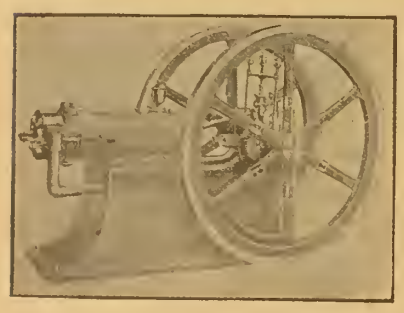
BEST, STRONGEST, SIMPLEST
MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

BUY NOW AND GET SUMMER PRICES
BURNS CHEAPEST FUEL

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

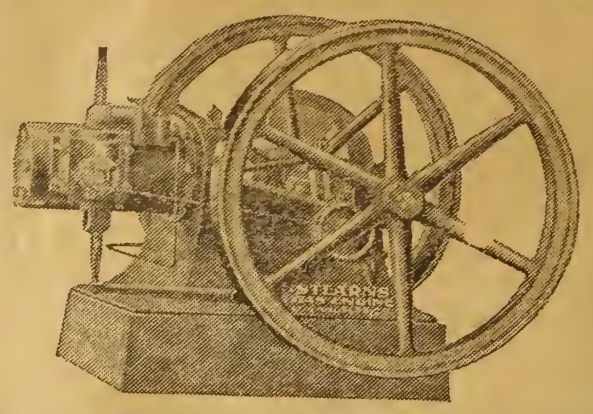
Wm. Gregory
602 North Main St. Los Angeles, Cal.

NO, THIS IS NOT AN ARTESIAN WELL, BUT

AN IRRIGATION PUMPING SYSTEM
SUPPLIED BY
E. J. SMITH MACHINERY CO.
POWER PLANTS, PUMPING MACHINERY AND WATER SUPPLY GOODS
129 No. Los Angeles St., Los Angeles, Cal.

When writing to Advertisers Please mention Cultivator

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use
Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

NATIONAL WOOD PIPE CO.

MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR

WOOD PIPE

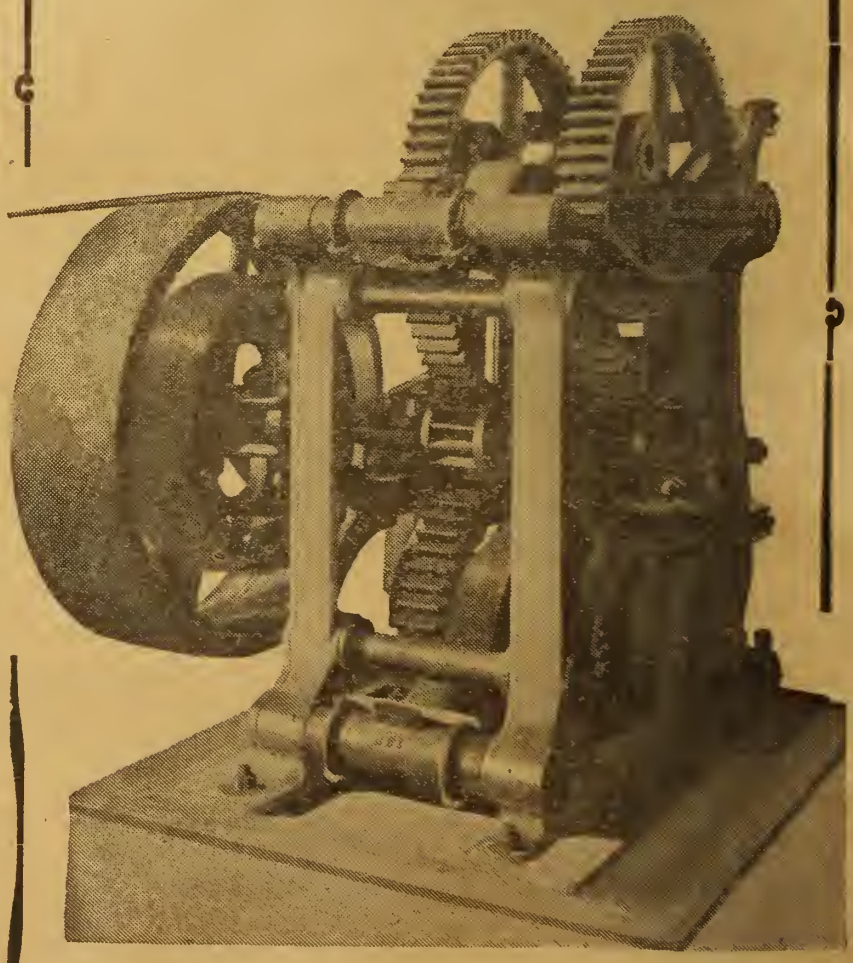
WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

The Record for the New Pomona Pumps

FOR 1905

Not a Broken Rod, Not a Plunger Pulled for Repairs



The irrigation season just closing has demonstrated fully the high merit and efficiency of the New Pomona Pumps.

Every one installed has passed through the season's run without breaking a rod or requiring the valves to be pulled for repairs, proving conclusively that the ideal beam motion used by these pumps is more than has been claimed for it.

The slow, uniform motion upward and the quick, smooth down motion handles the rods without any jerk or jar, while the long lap of the plungers in passing the dead points, keeps the water column in continuous motion upward and a steady stream flowing from the discharge pipe.

They have passed through the experimental period and are built better than ever for next year.

The ideal pump for irrigation purposes. Send for catalog.

Pomona Manufacturing Co., Builders, Pomona, Cal.

30.5

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

The Los Angeles Office of the Cultivator Has Been Moved to 115 No. Broadway (upstairs)

California Cultivator

LOS ANGELES SAN FRANCISCO

DECEMBER 1, 1905

PROGRESS OF RECLAMATION WORK.

The work of the reclamation service in reclaiming the arid lands of the West is progressing rapidly.

In California and Arizona on the Yuma project alone, the land intended to be benefited will be 85,000 acres, which will cost $3,000,000, while the Klamath and Sacramento projects will embrace many thousand acres and cost many million dollars.

The total sum set aside for the eleven Western States, to the present, is $32,870,000 and the amount of land to be irrigated is 1,859,000 acres.

The average value of irrigated land in the United States is $47 per acre. This acreage therefore will add $87,373 000 to the taxable property of the United States in land values alone. According to the census report of 1900 the average annual income from irrigated land is $15 per acre: On this basis an income of $27,885,000 per annum will be added to the nation's wealth by the projects already approved.

Irrigation is the hope of the future in California, as in all the arid States of the West. With it the added millions of population will find abundant opportunity to amass wealth, and the government derive an immense revenue from the lands, mines and factories which the territory embraced in the reclamation project will produce.

PRECIPICE CANYON, IRRIGATING STREAM, SIERRA MADRE

CIRCULATION EXCEEDING 10,600

Coulson's No. 3 Condition Powders

Keeps Fowls Healthy. Keeps the Hens Working. Changes Feed into Eggs.
You Exchange the Eggs for

$ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $

INSTRUCTIONS

When you mix up the mash feed for the poultry, just stir in a handful of Coulson's No. 3, and soon all the hens will be singing, for it makes the feed taste good to them, it cleanses the liver, it makes the blood circulate, it reddens the combs, it strengthens the digestive organs and it INCREASES THE EGG PRODUCTION, for it goes right to the spot.

Egg Machines==Keep Them Working

You have chickens. Did you ever consider them as machines—machines that make eggs? Did you see in a recent Sunday paper where hens were made to lay SEVEN TIMES THEIR OWN WEIGHT in eggs in a year?

Now, every poultryman knows, or should know, the importance of having the fowls in good condition and in good working order. Hens that are protected in this way lay the most eggs during the winter months, besides they will lay eggs that will hatch STRONGER and HEALTHIERCHICKENS, therefore, It means future PROFITS and PROSPERITY. Your fowls should certainly be well fed and cared for during the Fall and Winter season, for every one wants eggs when eggs are high.

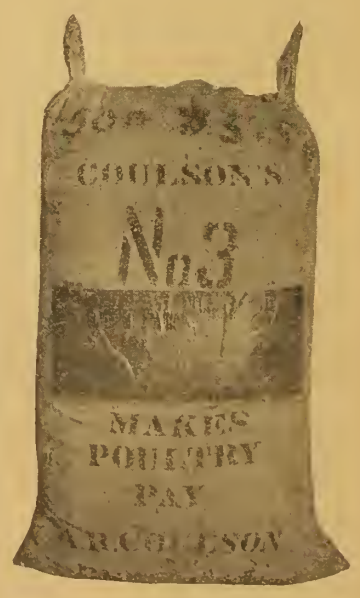
In the morning when you are mixing up the mash for the laying hens, just put in a handful or so of COULSON'S NO. 3 POULTRY POWDER, and see how lively it will make the hens, how their combs will brighten up, and how they will cackle. And Eggs! Why, a few days after you will be finding eggs all over the place—for COULSON'S NO. 3 POULTRY POWDER touches the spot and starts the magic flow.

Send for a small free sample of Coulson's No. 3 Condition Powder and also a circular telling you more about it. This COULSON'S NO. 3 CONDITION POWDER is prepared after our own PRIVATE FORMULA from especially selected ingredients, carefully and properly compounded, and the result is this powder is a GREAT HELP to the poultry.

"An ounce of prevention is worth a pound of cure," and a little of this No. 3 Condition Powder in the feed may save you many hens, and give you many more eggs. THE HENS NEED A TONIC to strengthen them. ONE CENT'S WORTH will do for twenty hens; one cupful, 5cWORTH, for one hundred laying hens. Get a package of this Coulson's No. 3 Powder; it will surely pay for itself.

The price is 15c per pound, but as a SPECIAL INDUCEMENT, and in order to convince you of its merits, we will send you 10 POUNDS FOR $1.50, EXPRESS PREPAID to your Station, or 25 pounds for $3.25. TRY IT; why not?

BEFORE



AFTER

COULSON POULTRY AND STOCKFOOD CO. PETALUMA, CAL.

I inclosed find P. O. Money Order for [illegible] pounds of Coulson's No. 3 Condition Powder, to be sent express prepaid as you offer.

NAME .....

CITY OR TOWN .....

A 50-pound sack of Coulson's No. 3 Condition Powders sent to your station, express prepaid, for $6.00.

Coulson's No. 3 Condition Powders is prepared after the private formula of A. R. Coulson, the chicken doctor. It goes right to the spot and starts the magic flow.

White Leghorn Eggs for hatching. Chicks hatched by scientific process. Chicks being well born are half raised.

White Leghorn Chicks for sale, just from the incubator. Chicks furnished in any quantity. Write for prices, stating quantity wanted.

Manufactured by

COULSON POULTRY AND STOCK FOOD COMPANY

730, 732, 734 Main St., Petaluma, California

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 22 LOS ANGELES, CAL., FRIDAY, DECEMBER 1, 1905 Subscription $1 a Year

Increase of Intensive Farming in California

By Mrs. E. M. Stetson, Toluca

Notwithstanding all its great features of size and grandeur, the West is awakening to the modest worth of close economy in small farming. There was a day of sloth when all of these noble resources lay fallow, and man lived at his ease by the least exertion possible here. Then came the grand rush of hot-headed enthusiasts who left a wake of followers that could see nothing that was not enormous in undertaking. Fast enterprises were in their blood and fed by the streams of speculation in mining they hardly needed the fostering spirit of the topography and soil to energize them into activity.

The great forests of Oregon, Washington and Northern California when opened up for timber cutting brought out the desire for work on a large scale. The mountains of ore that lay in the Sierras and Coast Range, with the miles of placers lying in sections between, were stimulants to undertakings of great proportions; and the broad valleys of the water courses with thousands and thousands of acres of tillable land gave no rest to the imagination of the western farmer until he could get machinery large enough for its cultivation.

It was a sympathetic suggestion of nature to him, a suggestion like the strength of a great magnet, and he could no more settle down to a potato patch or small truck farming than an eagle can perch on a pea vine and peck at the ants and the lizards for a living.

Such a change as is now presented in the manner of farming and other kindred occupations would hardly seem possible here with all these fostering agencies still present still prolifically abundant. Yet the change has really begun, and though all evidences of the former stage of magnificent proportions are not removed, still the new era has received a strong impetus, a very strong impetus, from the fact that it is a pronounced financial success.

The reasons for the change are not found in nature, but in man. The introduction of large and complicated machinery for the cultivation of great areas of land limited the number of men available and called for those who were skilled in mechanics. Those rejected must farm on a small scale or move on to other countries.

The coming of a large number of men and women from the East with less majestic ideas, health seekers here for a time with no great expectation of wealth or income, only enough occupation to keep busy and live out of doors, these all brought the idea of small farming to the front, for they made a comfortable living on their small patches and in many cases, considerably more than a living.

These features in themselves could have never constituted a sufficient impetus to throw so large a number of the people on the west coast into a condition bordering on aboringine agriculture, had there not developed along with these features a large and extensive market for exportation as well as home consumption. As the country grew it called for more berries, lettuce and beans, and from the excellence and rapidity with which these were produced there was opened

Intensive Farming [illegible] in a San Joaquin Orchard.

a market for homes here and elsewhere. Thus Los Angeles now ships large quantities of fruits and vegetables to Arizona, New Mexico, Texas, and all throughout the great Southwest, besides calling for an ever increasing supply herself. Lettuce is trimmed, washed and packed with ice and sent to nearly all parts of the United States from this point. Grapes are now handled and those of table varieties are bringing in thousands of dollars per year to owners of but ten or fifteen acres.

There is in addition to all of these reasons for the change in the manner of farming another and possibly a stronger reason in the education of the people through the universities in scientific and intensive farming. The enthusiasm aroused in Iowa, Kansas and throughout the Middle and Eastern States generally by the adoption of university or college methods in farming and the pronounced success of the trials, has spread to the West, and efforts are now made to secure the best men for the colleges of agriculture here.

Not alone is the interest in the colleges and among men of naturally scientific mind who have turned their attention to farming, but also with the otherwise uneducated men who have heretofore sowed vast fields of hay and grain in an irresponsible and hit-and-miss fashion with a corresponding [illegible] for their labors. These people [illegible] grown tired [illegible] the heavy respon[illegible]s, with their niggardly returns and when seeing the results of small farms carefully attended are selling off and coming down to a one or a two man plantation.

The printing and distributing of bulletins of information on special subjects by the States and the Federal Government has opened up the way for learning and specialization. Farmers get word of these through their farm papers, send for them and read them thoroughly, read with a present day personal interest, read with intention to go and do likewise, and read with a view to do one thing at least especially well.

With small farms and thorough analysis of soil the average farmer can by selection of fertilizers increase the yield per acre not only ten but a thousand fold. One man in Southern California by means of fertilizing and proper irrigating took over a thousand dollars worth of strawberries from a single acre in one year's time.

Sulphates, muriates, nitrates, potash, bone meal, super phosphates, and simple phosphates, and many other terms of chemical quantities are common words of conversation now among the class of farmers that are endeavoring by using their brains to save their heels, to make every inch of ground yield up the greatest possible amount of commodity. The reaction of lime on acid soil, the diluting and diffusing of clayey constituents, when found in harmful quantities, into other forms of soil character that are valuable, these and many more interesting studies are the means of keeping the small tract ranch man an enthusiastic conjuror of his own territory, small though that territory may be.

Just what effect the bacteria culture of alfalfa, peas and other leguminous plants will have on the farming of the West it is at present difficult to say. The reports from experimenters in the filed are divergent in opinion as to the relative merits of the solution. Some say it has a wonderful effect in producing growth, especially of the green cellular structure; others are not so enthusiastic. If, under proper application, however, it could be brought to a scientifically satisfactory condition, there is no doubt but that it would place the small farmer upon a pinnacle of prosperity.

The earlier and more approved method of introducing nitrogen into the soil by planting Canadian peas, cow peas, or vetch, and when these have matured sufficiently for the little nodules on the root and stem to become filled with nitrogen then plow them under, has put many a shining gold piece into the pockets of the prospering experimenter. Orchards of oranges and other trees now show a long line of vegetation between the rows and fields of wheat and barley worn out by successive years of similar crop sowing, have been planted to Canadian or cow peas with prolific and abundant crops following thereafter.

All of these methods of soil improvement point to the successful operation of the small farmer. For though the

(Continued on Page 527)

Berry Growing in Tulare

The following paper by Mrs. E. H. Gordon was read at the Farmers' Institute recently held at Dinuba.

* * *

Having invested in a piece of unimproved land, we looked around for something that would bring quick returns until the time the trees and vines should come into bearing. We noticed few berries grown hereabout, with the exception of the common blackberry, which has the unfortunate habit of sending up new plants enywhere within a radius of from one to ten feet, just where you don't want them. and in case you want to use the ground refuse to be gone. The more you cut them the more they come.

We decided to plant different sorts, giving the preference to the strawberry. We have found that this beautiful and delicious berry thrives best in the richest of soil. In fact, the three essentials in strawberry growing are good soil, good plants and plenty of moisture. There seems to be almost no limit to the amount of fertilizer that may be used with this berry. The land should be deeply plowed and thoroughly cultivated before the beds are made. After throwing up the beds the water should be turned in. It will settle the ground and is also the best surveyor, very quickly showing the unevenness of the beds. The beds should then be leveled to one inch above the waterline, after which they are ready for the plants.

This may all seem a great deal of work, but we have found that it pays to do it. The beds are about ten inches across the top, the plants being set on the outer edges. This plan saves space and water. Short beds are favorable and are watered in sections. Very shallow cultivation is needed.

Water is used according to the temperature. The plants are never allowed to get dry during the fruiting season. During the heated term, we use the water as much as possible in the cooler parts of the day. A light mulch of clean straw is placed under the plants and in the waterways, which serves the double purpose of keeping the berries clean and the conservation of the moisture.

Fall planting is growing in favor as in this way you are assured at least two good crops the following spring. All runners should be kept off, and the beds free from weeds. Rather close planting—from six to eight inches—gives good results in this warm climate. The market of the strawberry has been a very simple problem. The berries sell themselves on sight. The supply as yet has never equaled the demand. From the 2000 plants first set we gathered as many as 250 baskets of berries in a day, which retailed at 10 cents a basket.

The Logan berry and the Phenomenal raspberry, the last named being a cross between the improved dewberry and the cultivated raspberry, and described by Mr. Burbank as the largest berry ever grown. They should be set six or seven inches deep in well-prepared soil at least six feet apart, eight feet between the rows. Let them grow one year, watering often enough to keep them growing thriftily, and keeping them well cultivated. Set stakes 15 to 16 feet apart and stretch wire from stake to stake to tie the vines to, as they have a trailing habit and must be supported. Prune to about four feet in length. As soon as the vines are through bearing they can be cut out and the young vines that grow about the foot of the hill tied to the wire.

We are growing, also, three varieties of blackberries—all tip rooting—viz. the Mammoth, the Rathbarn and the Gardena dewberry, the last named being allowed to trail on the ground. These berries should have about the same care and cultivation as the others before described. These fruits have all done well and borne heavy crops and the only secret of our success is using plenty of fertilizer during the winter, cultivation and plenty of moisture.

From our experience with these fruits, we have demonstrated, on a small scale, the adaptability of the soil and climate of this great Alta district to the culture of these berries. With proper facilities for handling the crop, at the season of their heaviest bearing, there is no reason that this industry should not become a very profitable one. It would give pleasant employment to many men, women, boys and girls at a most agreeable season of the year and at a time when other work in other fruit is scarce.

PHYLLOXERA.

Professor Bioletti gave a most interesting and instructive lecture on phylloxera, that scourge of grapevines, which, when it has once got hold of vines cannot be cured and will inevitably kill the vines, though the period of activity varies from two to twelve years. In Fresno county, where phylloxera is known to exist, it has been present for ten years, though it was discovered only about five years ago. And irrigation and sub-irrigation in that county has retarded its advance The pylloxera is a very minute insect, but appears in groups, and so may be seen by the eye, especially the experienced eye. "Look for phylloxera in July and August," says Professor Bioletti, "at that time if it exists, it may be seen in powder-like blotches on the root about six inches below the surface of the ground. The insect sometimes takes wings and appears in the air, spreading thus from one vine or vineyard to another. But the presence of phylloxera may be detected by a glance over the vineyard. General yellowness does not indicate it. But a single sick looking or dead vine, surrounded by others of short growth, is a pretty certain sign, and at such symptoms the vineyardist should grub out the dead vine, the sickly ones and a circle of good ones three or four deep around the infected circle. And if phylloxera is not anywhere else in the district, it might pay to dig up and burn vines for an area of five acres.

This disease of the vine does not discolor the leaves. It simply shortens the growth of the canes. Professor Bioletti advises the grower who suspects the presence of phylloxera in his vineyard, to cut off a section of root about a quarter of an inch thick and send it to experts at the university or elsewhere for examination.

His exposition of the subject was of great value, and the same may be said of his advice as to pruning. As everybody knows, the object of pruning is to lessen the number of bunches of grapes so as to increase their excellence of quality. It would be impossible to give the details of his discourse; those who did not hear it missed a valuable opportunity. But as to pruning Thompson seedless, he advised that the spurs be left four or five feet long, and it was approved by local instances that the vines bear better when lying prone upon the ground than when staked upright, for in the latter position the sap goes to the extreme top, and in the former is evenly distributed. The time of pruning, he says, is a matter of choice, varying from two weeks after the leaves drop till two weeks before the buds again appear.

GREAT YIELD OF BANANAS.

A gentleman, who is a close observer, recently traveled over much of the state of Tabasco, Mexico, studying the agriculture of that region. He assures the New York Commercial that the account books of Senor Jose J. Duenas, of San Juan Beautista, shows that that millionaire planter harvested 31,200 bunches of bananas from 57 acres, during the twelve months next preceding that visit. This was equal to 547 bunches per acre.

The cost of cultivation, harvesting and delivering was $3120. If the fruit sold for the price paid in Cost Rica for bananas, 31 cents a bunch, the profit on the year's yield from those 57 acres was $6552, or $114.95 per acre.

That equalled 210 per cent on the cost of production, or 10 per cent more than the profit on the crops of seven banana plantations in Costa Rica for the year that ended with June, 1903.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

Thompson's Seedless Grapes
Rooted Vines, $4.00 per hundred. Write
E. E. GERRY, SANTA PAULA, CAL.

600 Almond Trees For Sale
The Nonpariel. I X L, Ne Plus Ultra, Hache's Prolific, Drake's Seedling. Height, 3 to 7 feet. Prices on application.
Isaac Martin - Merle, Cal.

California Concord Grapes and Kadota Figs
The undersigned makes a specialty of propogating the new variety of table grape known as the California Concord, and has 2000 vines for sale. Also the Kadota Fig Tree, which while resembling the White Pacific, is larger and sweeter, and the tree much excels the White Pacific in vigor of growth and productiveness. I have also my usual supply of soft shelled English walnut trees raised from selected nuts. S.H.Taft, Semi-Tropic Nursery, Sawtelle, Cal.

THE VERNON NURSERY
4524 Central Avenue, Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL, Prop.

VINES Rooted Vines, all varieties, on their own or resistant roots.
Minnewawa Vineyard, Fresno, Cal.

BLUE GUMS
Cypress, Budded Loquats, Citrus Stock and Shrubbery for sale in any quantity.
Geo. B. Warner, Santa Ana, Cal.

Stewart Bros. Nursery
The Oldest and Best Established Nursery in Southern California
The largest and healthiest stock of all kinds of Deciduous Fruit Trees in Southern California, from the famous Oregon Nursery Co. Nothing equal in size or healthy growth, with unsurpassed wealth of roots. Many thousands Soft Shell Santa Barbara Walnuts grown by us and guaranteed to be of superior quality—(see sample nuts at the office). Citrus trees of all kinds and varieties. Ornamental Trees, Palms, and everything in the tree line desired for Spring planting. Call on
Stewart Bros. Nursery
712 S. SPRING ST. LOS ANGELES, CAL.

CHICO NURSERY CO.
Our Specialties:
WALNUTS, Grafted and from Seed
GRAPES, Grafted and from Cuttings
FIGS, Smyrna, Adriatic, Black
APPLES
CAROLINA POPLARS
TEXAS UMBRELLAS
Complete Line of
FRUIT TREES
and
ORNAMENTALS
Agents Wanted
Third and Walnut, CHICO, CAL.

Spraying a Small Orchard
Requires a small spray pump—but a good one. You want just as good fruit as the owners of large orchards who use power sprayers—and you can have it. Any spray pump has done its part when it provides a high, even pressure, keeps the spraying material well stirred, gives no trouble, and works reasonably easy.
Bean's Little Giant Pump
does all this and more. When we say it "keeps the material well stirred" we mean it too, and it's important if you want good fruit. And the "no trouble" feature lets you feel good natured after the days spraying is over. The valves can't clog, the stuffing box can't leak (because there isn't any) and the pump is so simple it is a pleasure to use it. Of course we have good pumps cheaper but **Bean's Little Giant** is altogether the best barrel pump ever offered for spraying small acreage. Also a splendid whitewasher

Write for our special offer, freight prepaid, and we will also send our illustrated Catalogue No. 16 describing ten sizes of hand pumps and telling what sprays to use and how to prepare them. State number of acres and kind of fruit. Write today.
Catalogue No. 18 describes "Power Sprayers."
Bean Spray Pump Company,
161 W. Santa Clara St. San Jose, Cal.

FERTILIZERS AND FERTILIZING.

An address before the San Jose Farmers' Club by Blayney E. Maynard of Mountain View.

Mr. Maynard set out by stating that there were three fertilizing ingredients —potash, phosphoric acid and nitrogen (or ammonia). Germany, he said has been leading the world in fertilizing experiments. The German is a great scientist, though when he comes here he falls into California ways of robbing the soil.

The speaker here quoted from an article dealing with the work of fertilization in Germany. The United States Consul in Berlin sounded a note of warning, which it would be well to take note of. He reminds us that many of the nations which have passed the zenith of prosperity have drifted back for lack of attention to the conditions which made for vigor. Mr. Maynard reminded his hearers of the fact that the soil which in years gone by could produce 40 to 60 bushels of wheat will now not produce 1 bushels and some soils none at all.

Having related what artificial fertilizing had done for Germany, Mr. Maynard said that in building up the soil it is an expensive process. A single application will not be sufficient. Only years of careful work will restore the soil to its original vigor. If the orchardists had taken up the matter 10, 15 or 20 years ago the desired result might be accomplished more easily and less expensively. He believed he was correct in saying that many California farmers were disgusted and some of them impoverished because the soil did not give the return for the amount of labor expended. Potash and phosphoric acid, if used in excess, will do no injury. He pointed to the success of chemical fertilizing as applied in Mr. Gieger's famous cherry orchard in West Willows. He recommended the use of potash to prevent potato blight. If potatoes are too mealy or break up too much in the boiling, a complaint very often heard from the kitchen, the potash test would probably overcome that difficulty.

Up at Saratoga five or six years ago a certain orchardist started to use pure bone meal. The orchard was in bad condition. It was an old orchard completely worn out. Today he has a splendid orchard in prime health and vigor. He has not been able to irrigate but he is a much more successful farmer since he used fertilizers. He takes more interest in his place and attends to pruning, etc., with greater care and regularity. In eight years this farmer has spent about $40 for fertilizers per acre—that is amout $5 per year per acre.

Dealing with the shrinkage of prunes, Mr. Maynard said that weather conditions had a good deal to do with it, also excessive water, irrigating too late, deficiency of water. Some think that if they pump water into their prunes they have to pump it out when drying. Water does not create heavy shrinkage unless it is overdone.

Of raw bone, he said that plants feed more readily from the nitrogen in the raw bone than from the phosphoric acid.

In this state Thomas' phosphate does not seem to have any effect. It does not go down deep enough in our orchards. He could not recommend it greatly, though in a few cases cited it had gained the desired effect. They should not expect any results from Thomas' phosphate the first year. from some fertilizers they may expect good effects the first year. In four out of five or nine out of ten orchards where fertilizers were used last winter the effect is noticeable now. In orchards generally the trouble is to get fertilizers down deep enough.

Nitrate should be applied before irrigating. It is a very hard matter to wash it out of the ground. Nitrate of soda can be applied to a lawn at any time and also to young trees.

RECLAIMING THE DESERT.

The history of irrigation is one of steady growth and development, as statistics of the past thirteen years show that a crop producing area larger than the combined area of Massachusetts and Connecticut has been developed in a region once the most forbidding in our continent. The remotest and most unsettled parts of our great country, except in Oregon, are being connected by railroads carrying the commerce of the world. The experienced irrigators of today evince far greater practicability and a readier adaptibility to the conditions of their environment than did the pioneers. Their labors are less severe and their achievements greater than those of their predecessors, because they have learned how to subdue and apply the forces of nature through innumerable inventions. Great problems of water storage and diversion have been worked out to practical conclusion. Every available stream is now a potent force for good. The dams, which impound the floods, also furnish abundant electric power for all purposes, and even the flow of the canals turns wheels which lift large quantities of water to fields above the line of gravity supply. With the development of irrigation the range supports larger herds and flocks, while in more than one district the irrigation ditches have made possible the development of great mines; cities, populous and prosperous, have risen in the desert and have attained commercial and mercantile greatness.—E. T. Perkins in Sunset Magazine for November.

SPRAYING TO KILL WEEDS.

In Ontario, Canada, early in July, weed patches in which 28 species and 12 botanical families of plants were represented were sprayed with a solution of 9 pounds of bluestone to 45 gallons of water. It was observed that 24 hours after spraying the effects were the same as 6 hours after the treatment. It is concluded that wild mustard is the only weed than can be destroyed by spraying with this solution. The flowers of field bindweed and white cockle, and the leaves of blue weed, bull thistle, Canada thistle, and sow thistle proved very sensitive to the spray.

GRAPES draw large quantities of POTASH from the soil. This must be replaced in the fertilizer, else the vine cannot thrive.

Interesting pictures of grape vines, grown with and without POTASH, are shown in "Plant Food," one of a number of valuable books for the farmer, which we send free for the asking. Send name and address.

Address, GERMAN KALI WORKS, 93 Nassau St., New York.
Meyer Wilson & Co, San Francisco, Cal., are sole agents for the Pacific Coast.

CALIFORNIA FERTILIZER WORKS, Inc.
538 CLAY ST., SAN FRANCISCO, CAL.

SPECIAL FERTILIZERS MADE TO ORDER

As we produce our own Bone, Blood, Tankage, Sulfuric Acid, and manufacture our own Phosphate, we can sell high grade commercial Fertilizer at low rates.

MANUFACTURERS OF
Pure Bone Meal and
Complete Fertilizers

Producers, Importers and Dealers in Fertilizing Material of All Kinds. Send for our prices before buying elsewhere, and you will save money.

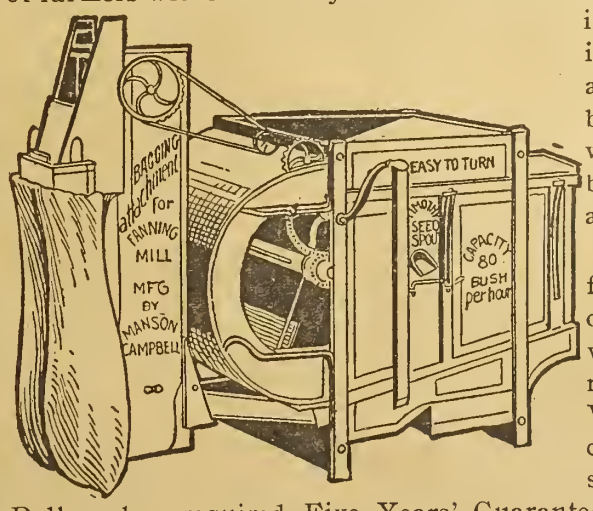
For Anything in the Plow Line ask us about the
SYRACUSE CHILLED PLOW CO.'S GOODS
Disc Plows, Sulky, Solid Comfort, Steel and Chilled Walking Plows, Hillside Plows, Harrows, etc, We manufacture the
FOSMIR STOCKTON and STOCKTON VINEYARD GANG PLOWS, Etc.

Have you seen the "New Harrison Wagon?"

L. A. MARTIN & SON
141-147 Wilmington St. Los Angeles, Cal.

The "Famous" Chatham

Fanning Mill with Sacker Attached was awarded the GOLD MEDAL at the Lewis & Clark Exposition, where thousands of farmers witnessed daily demonstrations in cleaning, grading and separating grains, such as wheat, oats, barley, rye, vetch, millet, beans, peas and clover seeds



Thirty days' free trial, price of machine within the reach of all. With each machine is sixteen screens, Power Pulley when required, Five Years' Guarantee, and freight charges paid.

Write now for our new catalogue, "How to Make Dollars Out of Wind," sent free.

Geo. W. Foott, 325 E. Morrison St., Portland, Oregon

BY J. W. MILLS, POMONA, CAL.

HOW I MAKE OLIVE GROWING PAY.

Mrs. Freda Ehmann.

The olive industry in the State of California may rightly be termed one of the most important of the many which this State has developed. Since the first trees were brought over from Spain by the Mission Fathers and were planted in the southern part of the State, olive culture has traveled successfully to the northern part of the State and is today found as far north as Tehama county, 300 miles above San Francisco.

I wish to call attention to a mistake which is so often made by taking it for granted that the olive tree will grow anywhere and under any conditions. Experience has shown that the tree may grow, but the grower must not be surprised to find a small and undeveloped fruit as a result of poor soil and lack of irrigation and cultivation. Olive trees are planted 60 to the acre, and if large trees of good stock, say four years old, are planted, they will yield a good crop in five years. From smaller cuttings, however, you cannot expect a crop under seven years. It has been the writer's experience that wherever olive culture has not been a success, it was because of local conditions or lack of attention and special knowledge.

As it requires skill and experience to prepare the commercial olive by pickling, it is necessary for the grower to be located near a general pickling plant so as to dispose of the crop advantageously, in case one cannot or does not feel disposed to do one's own pickling. The demand for raw olives is constantly increasing, while the prices paid are from $40 to $75 per ton delivered at the factory. It can be readily seen that this is a lucrative branch of horticulture. When we consider that California is the only State in the Union where olives are grown successfully, it may be easily understood what an extensive market there is open for California olives and olive oil.

I would, however, advise the planting of the large Mission variety only. My varied experience with all varieties authorizes this statement. Other varieties may have large fruit, but are not as desirable for the purposes of pickling as the Mission olive, nor are the trees and the fruit as hardy, and oil from the Mission olive is considered by the trade to be the best and brings the highest price in the market. In former years the Redding picholine was considered the best olive for oil, and was largely planted for that purpose, but by my advice to some of the growers, their trees of this variety have been grafted over to the Mission variety with the best of results. I may say the same of the Rubrias and other fancy varieties which are selected and planted from the catalogue without experience and knowledge of their commercial value both for pickles and for olive oil, and this, I might add, has been in a great measure the cause of some disappointment and dissatisfaction to olive growers.

At the present time packers should encourage the olive industry in California by paying the best possible price for olives, delivered or on the trees, as the acreage is not nearly sufficient to satisfy the demand of one large concern alone. The land in Yuba, Butte and Yolo counties is especially adapted to this industry and as the harvest of the olives comes at a time when the other farm work is over, there is ample time to give this fruit proper care in marketing it. Cheap land, plentiful water, favorable climatic conditions and a ready market combine to make California the best place on earth for the successful propagation of olives.

Any woman who feels inclined to pickle and prepare her own olives for the market, will always find ready sale for the California ripe olive, but I wish to repeat that by furnishing a poor olive to the trade, the reputation of the California ripe olive is thereby exceedingly endangered. I have found in my own experience that the Eastern people who know and recognize a fine, well flavored California ripe olive, are ready and willing to buy, but when a poor olive has been placed upon the market, it is impossible to get these parties to give the California ripe olive another trial.

Within the last five years, California olive oil has come to the front and is today recognized as the best of the olive oils on the market. While the margin on pure olive oil is not as large as it deserves to be, there are still encouraging results which invite the grower to increase her acreage as the making of oil uses all the small olives which otherwise would be rejected as pickles on account of their size.

In conclusion I would urge in the interest of the California olive industry the planting of the large Mission variety only, if you have good soil and ready irrigation facilities and treat your olive orchard as you would any other orchard, namely, fertilize and cultivate carefully, you will find that your efforts will be amply repaid. If you do prepare your own fruit and make olive oil from your own olives, make it a rule to furnish the very best as this will help to benefit this important industry and in the end assure you a better financial return.

THE BEST WINE GRAPES.

Hood Brothers near Kellogg in Sonoma county, have, in the course of three decades experimented with a hundred varieties of wine and table grapes. Next spring they will plant about fifty acres of new ground which will be divided among the following tested choice early ripening wine grapes.

a—Black Burgundy, small berry, makes a rich wine, regular bearer, average three tons to the acre.

b—Cabernet Franc, ripens evenly, compact bunches, four tons to the acre.

c—Cabernet Sauvignan.

d—Sauvignan Vert, a profuse bearer, yielding 12 tons per acre last year. Prune stump at two feet and leave four canes. It makes a fair light sauterne rather lacking in character, but excellent for blending.

e—Simillin Blanc, very hardy white grape, no mildew, scale, or sunburn, last to be effected by phylloxera, average crop five or six tons, rather too much character, excellent blend with Sauvignan Vert for making Sauterne.

f—Mondense, large black bunches with shoulders, four tons per acre, a heavy body claret.

These varieties will be grafted to approved resistants, set 6x12, with vinifera set between to be removed when those on resistants need the ground.

Some 2000 Lenoirs set out 16 years ago, when the grasshoppers were so bad, bear a box to the vine and seem to be at home in Knight's valley or on the light hill land.

Mataro wine looks well, but is light seen through glass, lacking in the desired ruby color. Needs blending with the Petit Bouschet. Neither do well here. With the exception of the Mondense which matures about October 1, the above approved varieties ripen early in September.—Sonoma County Farmer.

THE VALUE OF QUALITY

When you are considering the purchase of a wagon, buggy, harness, farm or dairy implement, always bear in mind that we have what you want and of the very best quality at the right price.

DON'T THINK

that you save any money in buying an inferior article. A poor wagon will cost nearly as much as a good one and the repairs necessary to keep it in good running order are very expensive.

BUY THE BEST

and you will be better satisfied and have longer wear at less expense than in the purchase of a cheap, thrown-together trap. We carry only such goods as we can recommend to be of first-class construction.

OUR POLICY

of giving full value has been adhered to since beginning business nineteen years ago. We have constantly increased our stock and now have a complete line to offer our customers.

CALL AND SEE US

when you are in Los Angeles. We shall be glad to show you the class of goods we carry. Our ad in last week's Cultivator, page 485, will give you a general idea of what we have.

NEWELL MATHEWS CO.,
200-204 No. Los Angeles St.
Los Angeles, California

TREES

CALIMYRNA FIG

There are a great many sorts of Smyrna Figs. We catalogue six kinds, but these do not comprise our entire collection. There is only one variety, however, which five years production on a commercial scale warrants us in recommending it for drying purposes, and this particular variety we have designated as above to give it the distinction it deserves. When you buy your trees from us, you know you are purchasing stock originating from pedigreed trees, which have been producing the highest grade of fruit for a period of years. When you purchase a thousand peach trees, you usually designate what you want. You certainly would not permit your nurseryman to send you a lot of varieties, without labeling them, if you could help it. Well, it is the same with the Smyrna fig, some are early, others late, some are purple, others green. Can you afford for the sake of saving a few cents to take chances on buying trees, which cannot be relied on. We were the first ones to demonstrate the value of this fig, and with our seal we guarantee the genuineness of our trees. Prices lower than ever before.

FRUIT TREES

Are grown on a deep, alluvial river bottom, virgin soil, consequently the root system is as perfect as good soil can make them. Our assortment of apples, pears, peaches, prunes, apricots is more complete than ever.

ORANGES AND LEMONS

Our stock is grown in Exeter, the famous thermal belt of Tulare County. The soil is a rich, deep, black loam, just the kind which develops the highest grade of fruit, as well as the most perfect type of tree. Our assortment consists of all standard varieties of Oranges, Lemons, Pomelos, Citrons, Limes, etc. Carrying out the lines already established in the other branches, we do not confine ourselves to one or two standards and no more, for although it costs money to keep up a stock of many varieties, we want to be on top in this, as well as in everything we specialize in the nursery business.

GRAPE VINES

If you do not know it, you ought to know that we are the largest growers of vines on the Pacific Coast. We are not only growers of raisin, wine and table grapes, but we are also making a specialty of vines grafted on Phylloxera resistant roots. Our great and enterprising neighbor, Mexico, is having its vineyards devastated by this pest, and we have already sold two orders to prominent vineyardists there, who know what our stock is, consisting of eighty thousand grafted vines. How did we get such orders? Because we had pleased our customers before, so they had no hesitation in patronizing us again.

ORNAMENTAL STOCK

Our stock of Texas Umbrella trees branched in all sizes, guaranteed absolutely true to name, is better than ever. We are extensive growers of Poplars, Mulberries, Maples, and all deciduous ornamental trees suited to our conditions.

In evergreens, we have Acacias, Eucalyptus, Palms, Roses, Greenhouse plants, in fact everything you want for your garden.

OUR NURSERIES

Eleven hundred acres in four distinct places. Expensive to run a business so widely distributed. We know it. Why do we not concentrate all in one place? Because we want to be in the position to grow the best of everything, and to do this, must select the soil to suit the tree, shrub or vine. No use to grow a tree where you know beforehand the conditions are not favorable for its perfect development. That is what twenty-one years of experience does. It places us in the position to grow the very best stock. In making a plea for your trade, we do so, not because we have the cheapest stock, but on the ground that when you favor us with your business, you will get the best which money, brains and experience combined can grow.

CATALOGUE

We will mail our large profusely illustrated Catalogue, English or Spanish, to any address on receipt of 5c postage. Price-list mailed on application.

PAID-UP CAPITAL, $200,000.00.
FANCHER CREEK NURSERIES, (Inc.)
GEO. C. ROEDING, PRESIDENT AND MANAGER
FRESNO, CALIFORNIA

CITRUS FRUITS

FIGHTING SCALE PESTS.

The following letter to Thos. Stone, of Pasadena, by James Mills of Riverside is one of most unusual interest and value to all citrus orchardists. Occupying, as Mr. Mills does, the unique position of handling a larger acreage of citrus orchards than any other man in the State, his opinions and experiences are eagerly sought for by all growers, for most unusual success has followed his efforts to bring the orchards of the Arlington Heights Fruit Company up to a high standard both in regard to physical condition and financial returns:

"I beg to acknowledge receipt of your favor under date November 16. You interest me very much, particularly beacuse you are approaching this matter in the right spirit. Some damage has been done with the use of distillate spray, is being done, will be done, the like is true of the fumigating process. There are those who damage their trees needlessly. Since taking charge of this large tract of citrus groves, I have been spraying for black scale and also for red scale. We have not succeeded as well as we should like with the red scale but we have accomplished as much as some with the fumigation and at one-fifth the cost. We have, however, accomplished a very great deal so far as the black scale pest is concerned; we have practically exterminated this pest in some of our orchards. In some of these orchards three years ago the trees were covered with the black scale, so much so that they could not bear fruit. By the use of distillate spray we have entirely eradicated the pest, have re established the trees and they have borne immense crops. When I say that we have only washed 200 boxes of navels last year out of 160,000 picked, I say a great deal for distillate spray, yet the fact still remains that some of our neighbors have actually damaged their trees with the same process. Why? Simply because they hire the contractor to do the work and pay him so much per gallon. I would not let a contractor spray our trees if he did it for nothing. He has not that interest in the work that the owner must necessarily have. He does not take the precaution needed and many precautions must be taken whether we spray or fumigate. It is necessary that your orchard should be in prime condition. It is necessery that the irrigation should first be done and should immediately precede the spraying operations. It is necessary that the orchard should have been irrigated and that the land should be thoroughly moist and not dry. I have seen contractors go into an orchard long after irrigation, needing irrigation at the time, with the trees wilting and an electrical storm blowing and turn on the stream at so much per gallon. It is annoying; it is exasperating to know that there are growers of citrus fruits who are so little alive to their own interests. It is hard for me to tell you just what we have done, you must see our groves to realize it. I have sprayed groves for neighbors who formerly fumigated and they are immensely pleased. First, because the work was well done and second because it was cheaply done. I doubt very much if anybody could show me to day a particle of damage in any of the groves treated by us this year and we have covered six or seven hundred acres. We irrigate everything just prior to spraying. We run a large outfit and have two expert men in charge; one in charge of the machines to see that everything is in first class condition, the other overseeing the men to see that they do the work as contracted for. We test every drum of oil received and those shipping to us know that we test it. We are using less material, that is, of the emulsion this year than we did heretofore and with good results. It is not costing us much less than heretofore but the results are better. This is because of the expert supervision. If the growers cannot band together and consolidate their interest but must hire others to look after his work, damage must be expected. I do not quite understand why your grove is so filthy with scale as you say after repeated treatments. We expect to practically clean up the scale in one application. We treated a grove of 200 acres this year although it had very little scale on it and yet it is two and a half years since it was treated before. We treated it now because we prefer not to let the scale get control. If there are a few infested trees in an orchard we will treat the whole orchard.

With reference to the trouble you have in reaching the scale in your vicinity, one of your commissioners explained to me that the hatch was very irrigular near the coast. This must be the explanation of your trouble. With us the hatch is pretty uniform and we can wait usually until there is an almost complete hatch before beginning to spray. With our large acreage, of course we begin before the entire hatch is out, else we could not cover so great an acreage during the season. When we do this, however, we come back in the fall and treat the groves which we treated early, again. I believe that if you would treat your groves, say in April, and get all of the of the young hatch and again in October, that you could get the entire hatch and thus avoid having to spray your orchards every year. This year we have used 1 1-2 per cent. of distillate and 1-4 per cent. of turpentine, that is, three gallons of distillate and one-half gallon of turpentine to every 200 gallons of water. For a time we used just one quart of turpentine but we find it better to use one-half gallon of turpentine and less than two per cent. of distillate and then use ten gallons of the emulsion to the tree where formerly we used 18 gallons. Our small trees have cost us from three cents to five cents and our largest trees from five cents to six cents. The most expensive work we did this year was on red scale and the application cost just about nine cents per tree for large lemon trees. I see no reason why anybody studying the question and taking the necessary precautions, should be damaged. I took charge of these large groves when they were a by-word and a setnch in the nostrils of the community. They are now the pride of the community and I think of the state, and are paying their owners magnificently, yet this increase in value and productivness have been brought about at the same time that we were spraying to kill off the very large amount of black scale that had taken possession of many of the orchards. Whatever we may do in the future regarding red scale, we will continue to spray for black scale unless something very different happens to what has already happened. We will certainly not continue a practice that may be shown to have injured our trees, however cheap the process may be. We are in the orchard business to stay and we are going to use those methods which will conduce to the highest productiveness of the orchards and the greatest return in actual dividends to the owners. Red scale has increased on us in the lemons. It increased very rapidly under fumigation by the plat, from 500 to 5000 trees on one large grove of lemons in two years. We sprayed last year a portion of this acreage and fumigated the other. We got, we thought, about 91 per cent. with the spray and 99 per cent. with the fumigation, yet the scale has largely increased during the year and it is necessary again to both fumigate and spray. The grove that was fumigated is as bad as the grove that was sprayed, and yet we sprayed it in the interim besides. We will spray again shortly to kill off any scale that is now hatching and that is get-at-able but if there should appear a further increase next spring, we will buy our own outfit of fumigation tents and tackle the problem that way. I have not been able to see any groves in California and I have searched for them, where the red scale has been effectually stamped out by either process. I have letters from parties who claim to have fumigated for 12 years in San Bernardino County, at Ontario and at Uplands; one fumigated 6 times the entire orchard and 6 times by the plat and he says: I quote it—"All I can say is, my orchard is no worse." I have been trying to succeed without resorting to fumigating because the expense is very great. When, as I have told you in this letter, I am spraying our company's groves at from 3 to 8 cents per tree, the average not ruinning over 5½ cents, you will readily understand why I do not want to fumigate unless compelled to do so. I am satisfied that I will not be compelled to do so in this orchard so far as black scale is concerned. I am not satisfied as to the red scale. This red scale pest is a persistent one; it is hard to overcome and particularly so in lemon orchards because there we pick at least eighteen times per year and thus scatter it. One thing is sure, neither cyanide or distillate will kill the black scale under the shell. It has got to be hatched out, and at least not advanced beyond the "H" stage. You can not get at the egg under the old shell. You may fumigate and if the little pest is not out, you can not get him. Come and see us, see what we are doing; see that we have not killed any trees and are not likely to kill any. Nevertheless, I say again that there are many damaging their trees or having them damaged for them and they do not deserve much sympathy. If men will not study to their own advantage, the methods to be pursued for the protection of their property, they must, necessarily, be the losers. Fumigation is a good process; it costs considerable money. Last year we spent about $10,000 in spraying 194,000 trees for ourselves and other people; had we fumigated it would have cost us pretty near six times as much. $50,000 is not picked up on the street every day, not even at Gold Field or Cripple Creek. If we can save it we are going to do it and we are going to study to do it. $50,000 will pay 5 per cent. dividend on—figure it out for yourself. Yours truly, James Mills.

EVERY FARMER KNOWS

that it is necessary to use fertilizers; the only question is as to the meth dof applying them to the soil.

THERE IS NO QUESTION

in the minds of those who have ever used the **Buckeye Fertilizer Drill** that it is absolutely the best for the purpose. Especially adapted for use in Orange Groves. It puts the fertilizer where it will do the most good, saving time, money and labor We also have the **Buckeye Grain Drills**—nothing better on earth. Write to us or call at our new store.

WE ALSO SELL

the **John Deere Plows and Harrows.** Better than ever.

Hawley, King & Co.

224-228 South Los Angeles St. Los Angeles

VALENCIA LATE

And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Glendora, Riverside or Redlands, as desired. Address

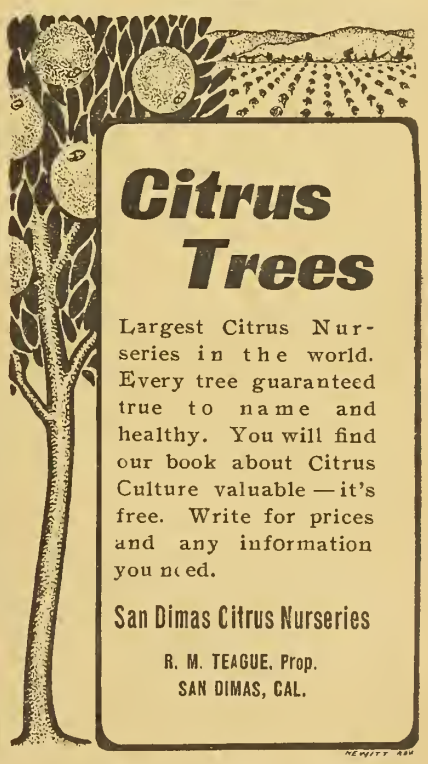
Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Stop! Listen!

Buy Orange Trees that are true to name. I do not own the largest nursery in the world, but can produce the best trees in the world, and can beat the world on prices, according to quality.

H. M. Cole Third House S. Hill Ave. Pasadena, California

Sunset Phone Main 450



Citrus Trees

Largest Citrus Nurseries in the world. Every tree guaranteed true to name and healthy. You will find our book about Citrus Culture valuable — it's free. Write for prices and any information you need.

San Dimas Citrus Nurseries

R. M. TEAGUE, Prop.
SAN DIMAS, CAL.

ORANGE TREES

Oldest Established Citrus Nursery in California, at Alhambra, Los Angeles County

Late Valencia and Washington Navels, Lisbon and Eureka Lemons. Guaranteed true to name. No better trees in this State. Lowest market price. Three-year buds, four-year roots. Horticultural Commissioner's certificate. Order early, as good trees are scarce. Inspection invited.

E. G. Wood, Owner, at Nursery or Room 732 Huntington Building, Los Angeles, Cal.

DRIED GROUND TANKAGE

THE BEST AND MOST ECONOMICAL FERTILIZER

ANALYSIS { 10½ per cent Ammonia
{ 18 per cent Bone Phosphate

WRITE US FOR PRICES AND PARTICULARS

Western Meat Company - - San Francisco

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

TROPICAL FRUITS.

The following list of tropical fruits suitable for growing in the most favorable sections of California were exhibited at the late flower show in Los Angeles in competition for "The Times" cup, offered for the best collection of economic tropical plants.

Aberia Caffra, "Kal Apple" capital for hedges, fruit edible. Natal.

Achras Sapota, 'Zapote Chico" yields best chewing gum, fruits very good. Mexico.

Aleurites cordata, yields "Wood-Oil" or Chinese varnish, from Southern China.

Aleurites Moluccana, "Candle-nut Tree" fruiting branch from a tree ten years old, began to bear at 5 years. Moluccas and Philippines.

Anona Cherimolia, "Cirimoya," well-known fruit, from Peru.

Anona macrocarpa, bearing more freely and larger fruits, leaves also larger, a distinct species. South America.

Anona reniformis, "Custard Apple," leaves smaller, flowers more powerfully scented; fruits kidney shaped. South America.

Alpine nutans, yields true "Chinese Ginger." Also quite ornamental. China.

Ananas stavia, ordinary "Pineapple," from tropical America.

Andropogon schoenanthus, "Lemon Grass," yields citronnelle oil. India.

Agathis orientalis, handsome large tree, yields true "Damar Resin." India and Malaya.

Benthamia fragifera, "Strawberry Tree" from northern India.

Camellia Thea, ordinary "Tea," from China and Japan.

Carissa grandiflora, "Natal Plum," also very ornamental. Natal.

Carissa edulis, fruits much prized for jellies. Arabia and northern India.

Casimiroa edulis, "Zapote Blanco," fruit much prized in Mexico.

Cinnamomum Camphora, well known "Camphor Tree," from Formosa and Japan.

Coffea Arabica, true "Coffee," originally from Harrar, Abyssinia.

Crescentia alata, "Tecomate," hard shelled fruits fruits used for cups, pulp medicinal. Mexico.

Cecropia peltata, "Trumpet Tree," hollow stems used for musical instruments, yields good fiber, fruits edible. Tropical America.

Cecropia palmata, similar to the above, but hardier, coming from Argentina.

Curcuma angustifolia, yields East Indian "Arrowroot." India.

Cupania sapida, "Akee fruit," brought by the negroes from tropical Africa to the West Indies.

Cedrela odorata, "Cuba or Spanish Cedar Wood," Cuba and West Indies

Cedrela fissilis, hardier and growing much faster, Paraguay and Brazil.

Cedrela Sinensis, excellent timber and shade tree, from China.

Dendrocalamus strictus, "Male Bamboo," solid canes, esteemed the best. India.

Erythrina suberosa, wood very light, used instead of "cork." India.

Eugenia Jambos, "Rose Apple," well known fruit, India and Malaya.

Eugenia Pitanga, "Surinam Cherry," first rate for dessert and jellies. Brazil.

Ficus Bengalensis, true "Banyan Tree," bark, leaves and roots medicinal. India.

Ficus elastica, the original "Rubber Tree," from which only rubber was obtained at first. Northern India and Assam.

Ficus Palmeri, very large tree, white figs, Sonora and Lower California.

Ficus Psuedo-carica, new, bears excellent red figs, from Abyssinia.

Ficus Sycomorus, wood much prized, fruits edible figs. Egypt.

Ficus saplda, glossy foliage, very fine fruits, Costa Rica.

Feijoa Sellowiana, large, egg-shaped highly perfumed fruit, sure to become very popular in California, from Uruguay.

Hibiscus elatus, tall tree, yields much prized "Cuba Bast," from Cuba.

Inga Feuillei, "Pacay," bears sweet, white pods much prized in Peru.

Inga dulcis, "Guamuchil" also with edible pods, from Mexico.

Lawsonia alba, yields "Henne Dye," flowers very fragrant, India, etc.

Lucuma mammosa, "Marmalade Fruit," very large, and fine taste. Tropical.

Musa paradisiaca, the well known common "Banana." America.

Nephelium longanum, the "Longan," a very pleasant fruit, South China.

Ocimum sanctum, "Tree Basil," used as we do "Sweet Basil" india.

Passiflora dulcis, "Grenadilla," well known edible Passion Flower. South America.

Passiflora laurifolia, "Water Lemon" much prized in the West Indies.

Persea gratissima, "Ahuacate" or "Alligator Pear," from Mexico.

Pilocarpus pennatifolius, yields "Jaborandi," the most powerful soporific known, from Brazil.

Pilocarpus racemosus, said to contain a higher percentage of the above. Colombia.

Piper nigrum, true "Black Pepper," Java and Moluccas.

Psidium araca, probably the best of introduced Guavas, from Brazil.

Psidium Molle, "Guava," with downy leaves, fruits rather sour, Central America.

Psidium Cattleyanum, ordinary "Strawberry Guava," from Brazil.

Psidium pryiferum, ordinary "Lemon Guava," from South America.

Psidium Friederichstalianum, new, blackish fruits, Central America.

Quercus incana, "Silvery-leaved Oak," with edible acorns, from India.

Quillaya Saponaria, yields "Soap Root" or "Bois de Panama," Chile.

Randia Thurberi, "Papache" fruits, much prized in N. W. Mexico.

Phyllanthus emblica, emblic or Myrobolan Tree," much used for jellies, as well as in medicine. India.

Phytelephas macrocarpa, true "Ivory Nut Palm," from Peru.

Royena lucida, yields a kind of "Ebony." Cape of Good Hope.

Sapium sebiferum, true "Tallow Tree," Southern China.

Santalum album, yields the true "Sandal Wood," of India.

Sapindus utilis, "Soap Berry Tree," from Southern China.

Tamarindus Indica, fine shade tree, subacid pulp of pods much used for refreshing beverages. India.

Vanilla planifolia, true "Vanilla," of commerce. Tropical Mexico.

A COMMON ERROR.

A prevailing error, in planting lawns, is that of selecting trees of the largest growth, which soon become a serious evil, and one which is not easily remedied except by their entire removal, which is sometimes, though reluctantly done. Ornamental grounds depend quite as much for their beauty on the stretch of unobstructed grassy lawn as upon trees and shrubs. The skillful combination of trees and grass forms the art of landscape gardening, so far as planting is concerned; and no small part of this art consists in the selection of trees which, both in form and size of growth, are best adapted to the size and disposition of the grounds to be ornamented.

SEA BEANS.

These highly polished seeds are sold as curiosities. Tourists bring them home, sometimes considering them the product of the sea. They are washed ashore by storms, and are collected and polished with emery, file and glass and are almost as smooth and bright as agates. The real history of the large, hard, bright oval "sea bean" is that it is the product of a vine, Mucuna urens, that grows in the West Indian islands, and tropical America.

The beans are double convex and of a rich chestnut brown, with a yellowish margin where the two convex surfaces join. These beans will keep as long as ivory, and are sometimes mounted in gold or silver as souvenirs and ornaments. They come to our shores on the ocean wave, but are not marine plants.

CARE OF POT PLANTS.

Turn your plants in the window to prevent them from becoming one-sided. Do this at least once a week. Keep them perfectly clean at all times. If cleanliness is next to godliness among men and women, it is next to healthfulness among plants. Indeed, plant health is largely dependent on it. Leave decaying foliage on a plant, and let dust clog the pores of it, and vermin breed at will, and in a short time you will have a plant hospital to run. Stir the soil to prevent it becoming crusted over. If the pots show green mold on the outside, scour it off promptly, and examine into the condition of the dralnage. If this is what it ought to be, few pots will become moldy.

Petunias stand the sun well and make very desirable bedding plants for California. The improved strains are very handsome and should not be overlooked when allotting space in your garden.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

Armstrong Nurseries
Field Grown Roses
Now is the accepted time to furnish your grounds with a few choice Roses, for which we are headquarters in California. Our new catalogue describes at length over one hundred varieties and contains many choice illustrations of the more popular sorts. Send 2c stamp for a copy.
Armstrong Nurseries, Box 14, Ontario, Cal.

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN
HAS REMOVED TO
345 SOUTH MAIN STREET
WHERE IN LARGER PERMANENT QUARTERS HE WILL BE PLEASED TO SEE ALL HIS PATRONS

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm
Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.
Send for samples.
PRICES
12 inch long, $ 9.00 per 1000
14 inch long, 10.00 per 1000
16 inch long, 11.50 per 1000
18 inch long 12.50 per 1000
24 inch long 15.00 per 1000
30 inch long 17.50 per 1000
Agents Wanted Everywhere
YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.

OUR NEW SWEET PEA
Helen Pierce
A beautiful novelty discovered and introduced by us this year. It is bright blue, mottled on white. This is the time to plant. Send us for a a sealed packet..... 25c
We have been extensive seed growers for many years and are now prepared to supply any one on the Pacific Coast with reliable Vegetable, Grass and Flower seeds at retail. Our fine illustrated catalogue mailed free about Dec. 1st. Write for it.
C. C. MORSE & CO., Seed Growers
815-817 SANSOME STREET SAN FRANCISCO, CAL.

In the Vegetable Garden

COMBINATION OF FLOWER AND VEGETABLE GARDEN.

It is not always easy or possible to have anything like a flower garden. Perhaps there is no space for it or not plants enough to make any show. In this case, combine the two—the flowers and the vegetables. The latter are, of course, the more important of the two. Flowers are very pretty, but nice crisp lettuce, carrots, parsley, onions and all other kinds of vegetables are of a great deal more importance than flowers. We can get along without flowers; we must have the other things; and by having the two in the same spot, one adds interest to the other. A particular section can be set apart for the flowers if you choose, but that is not, after all, necessary. Only a little regard should be had to keep together plants of the same height, as that will be better than having very tall plants too close to small ones. But in a bed three or four feet wide roses can be planted in the center, and on the edges you can plant any kind of low-growing plants, such as violets, pansies, daisies, etc., or you can sow seed of sweet alyssum, verbenas, candytuft or parsley, lettuce, radishes, etc., if you have a mind.

The idea is to have a little of everything. You have no thought how much pleasure you will find in this uniting of the beautiful with the useful. Try it in a small way first. Let the main walks be about two or three feet wide, making them lower than the beds by about four inches throwing the soil on the beds. These walks could be curbed by using a 2x4 scantling, or you could use 6-inch wide sods free from Bermuda grass. This sort of garden should afford you the best pastime and recreation, and it is particularly women folk that should take the greatest interest in it.—Farm and Floral World.

OUR FIRST TOMATO.

It may be of interest to know where the tomato was first grown in this country. The story is told, that a good many years ago, a man recently arrived from the Bermuda Islands, was committed to a Pennsylvania jail. He had with him a few seeds, which he planted in the jail yard, but before the plants came to maturity he was discharged. The plants bore strange fruit, which, as it ripened, changed from green to red, and was greatly admired by the prisoners.

The matron of the jail, sure that it was poisonous, cautioned all the inmates against eating the fruit, but as she desired to save speciments of it, she planted some of the seeds the following spring, and just as the fruit was well ripened, the man from Bermuda revisited the jail, and asked to see the plant. He called for pepper, salt, and vinegar, and to the astonishment and horror of the spectators, ate the fruit with a relish. Having finished, he told them that this strange fruit was a tomato, or having translated into English, a love-apple, and that it was wholesome and nutritious.

The seeds were therefore carefully preserved and distributed among friends and neighbors, who cultivated it as a curiosity, but it was long years before prejudice gave way to appetite, and this now most popular vegetable came into general use. Even now many people remember it as an ornamental rather than a useful plant. Probably more tomatoes are canned than any other fruit or vegetable, as they can be served in so many ways: eaten raw, with salt, pepper, and vinegar, or with a salad dressing, or plainly stewed in sauces, soups, preserves, and pickles. The tomato is ever ready for an emergency, and the provident housekeeper is sure to have it in reserve.

HOW THEY GROW STRAWBERRIES IN SOUTHERN STATES.

I am in the Chadbaum section, which produces and ships more berries than any other one point in the world.

You advise three-foot rows and 12 inches in the row. I take issue in both distances. I advise four-foot rows and 18 inches in the row. You need almost flat cultivation, which you can't give without more space to work in between the rows. Then, at 12 inches your rows at a year old will be a solid mass of bushes, the fruit small and ripen pale, while you want for good prices, a large, dark-red berry, which you can't get without room to let in plenty of sunshine.

I farm on the intensive plan and just as quick as I am through picking I dig a hole between the hills and plant one stalk of corn, skipping three hills each time. I at once set to working on my corn, which soon gives just enough shade to keep the plants in good condition through the hot weather without smothering them, and when the fodder is ready to take I use a sharp hoe, cutting off at the ground and carrying out the corn. Thus I have kept my berries clean and got pay for it in a good crop of corn. In order to not rob the berry patch, I put in 300 pounds of fertilizer when the corn is about six to eight inches high, and my berries come out 50 per cent. better in the fall than those where the corn is not planted.

I have raised four good crops on the same land this season. In November I planted in cabbage, then as soon as danger from frost was over I planted bunch beans between, and when laid by the beans the cabbage was off and I planted corn in the middle, and when I laid by the corn I broadcasted peas between the corn. I plant cantaloupes six feet apart, each way, and two stalks of corn between one way, then train the vines to one middle and sow the other in peas, and as soon as the cantaloupes are gathered sow the other middle in peas. I never put in a fresh crop without fertilizing it at the proper time, and depend on peas to enrich the soil, which they are doing very fast. Irish potatoes are planted five feet between the corn in the middle the last planting, then the peas broadcast when the potatoes are dug and the corn laid by. My land is a light, flourery soil and I am at a loss to know what grass will make the best meadow, and would be glad for information.

San Luis Obispo County Lands. Best and Cheapest in the State. Rainfall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

Berry Vines
Logan, Burbank's Mammoth Black, Phenomenal. Prices on application
Isaac Martin Merle, Cal.

Berry Plants
Brandywine Strawberry, Cuthbert Raspberry, Crandall Blackberry and Loganberry Plants.
Toluca Nursery. Toluca, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

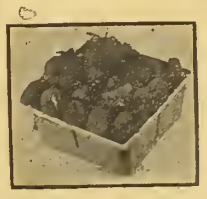
Strawberry Plants
200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address
F. S. Lee, Pasadena, Cal. Phone Main 922

LADY THOMPSON AND EXCELSIOR **STRAWBERRY PLANTS**
For Sale, or will exchange for Brandywines, Glen Marys, William Belts.
E. M. BOGER REDLANDS. CAL.

BRANDYWINE PLANTS
Brandywine Strawberry Plants for sale, Kellogg's strain. No better nor thriftier plants grown. Clean of all leaves; at bottom prices.
G. W MULLENDORE, COVINA, CAL.

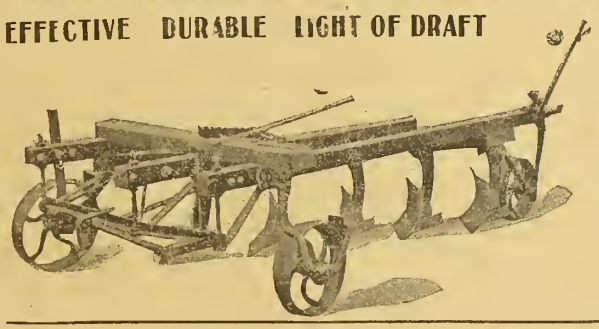
STRAWBERRY PLANTS
(TROPICO BEAUTY)
The very best Brandywine stock at low prices for sale by the grower,
D. Griswold, Box 25, Tropico, Cal.

BRANDYWINE "A 1" **STRAWBERRIES**



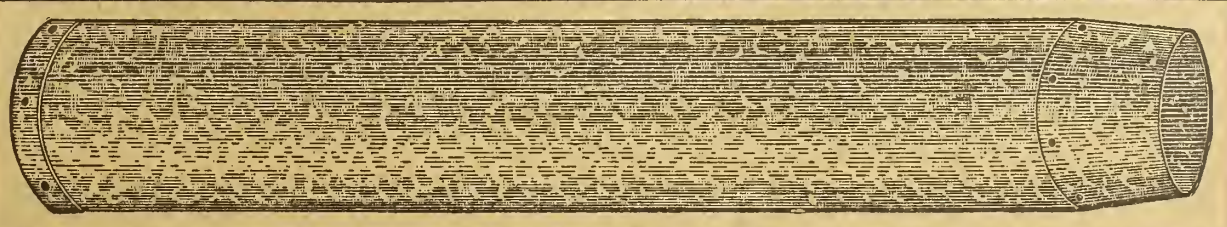
250,000
Strong Growing, Thrifty Plants for sale. Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.
Frank P. Baldosser,
Covina, Cal.

Stockton Reversible Gang Plow
EFFECTIVE DURABLE LIGHT OF DRAFT



This is our regular Plow and Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.
Hauser & Haines Mfg. Co.
Stockton, Cal.

Greatest National Bank West of Denver and South of San Francisco
First National Bank
United States Depository for Government Funds
CAPITAL, SURPLUS AND UNDIVIDED PROFITS, OVER $4,000,000.
DEPOSITS, $13,500,000. TOTAL RESOURCES, $18,000,000.
We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.
PRESIDENT—J. M. ELLIOTT.
VICE-PRESIDENTS — STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS.
CASHIER—W. T. S. HAMMOND.
First National Bank
Los Angeles, California



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The *only* way to *Irrigate Alfalfa. Cheaper* than *Flumes.* This is only *one* of our *specialties.* We make *Riveted Water Pipe* in lengths of *Ten Feet* from *Single Sheets.* Let us *prove* to you that we make *Pipe* and *Tanks Right.* WRITE FOR CATALOGUE.
TALLERDAY MANUFACTURING CO.
PHONE: ALHAMBRA 301 DOLGEVILLE, CAL., the Manufacturing Suburb of Los Angeles
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

Room 416, Hearst Building, San Francisco, Cal
115½ North Broadway (upstairs), Los Angeles

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line, $1.12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1¼ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to 10	Lines	15 cents per line
11 " 50	"	14 " " "
51 " 100	"	13 " " "
101 " 500	"	12 " " "
501 " 1000	"	11 " " "
1001 " 1500	"	10 " " "
1501 " 2000	"	09 " " "

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 1, 1905

CONTENTS.

	Page.
Intensive Farming in California	507
Berry Growing in Tulare	508
Phylloxera	508
Fertilizers	509
Olive Growing	510
Spraying For Scale Pests	511
Tropical Fruits	512
Vegetable Gardens	513
Strawberries in the South	513
Editorial	514
Coast News Notes	515
Abortion in Cows	516
Adulterated Bran	517
Bedding Cows	518
Little Farm Buyers	518
Operating an Incubator	519
Poultry Questions	520
Hints to Poultry Beginners	521
What a College Farm is For	522
Queries and Suggestions	523
Household	524-5
Markets	526-7

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

Reciprocal Tariff League.—A strong movement has been inaugurated in the East, among farmers and stock men, under the title above mentioned. It is strictly non-political. It is a movement to correct conditions now existing in the foreign market and growing worse for the American farmer.

It is in the hands of business men; mainly representing farming interests. The big movement of grain to Europe this fall is in anticipation of the closing of Germany's ports against us March 1st. We are already practically shut out of both Germany and France so far as our live stock and meats are concerned. We are losing markets worth $100,000,000 per year because the Blaine and McKinley Reciprocity policy has been "side tracked" by a minority in the United States Senate.

It is not intended to disturb the tariff system in the main, as it exists at present, but to create a wider policy which will open the door to expansion of our agricultural industries. We are producing faster than we can consume, with the inevitable result of stagnation of business in the not far distant future unless we can find an outlet for over produced commodities.

In one of his last public addresses, the late President McKinley offered wise council when he said:

"Our capacity to produce has developed so enormously and our products have so multiplied, that the problem of more markets requires our urgent and immediate attention. Only a broad and enlightened policy will keep what we have. No other policy will get more. In these times of marvellous business energy and gain, we ought to be looking to the future. strengthening the weak places in our industrial and commercial systems, that we may be ready for any storm or strain.

By sensible trade arrangements which will not interrupt our home production, we shall extend the outlets for our increasing surplus. A system which provides a mutual exchange of commodities is manifestly essential to the continued and healthful growth of our export trade. We must not repose in fancied security that we can forever sell everything and buy little or nothing. If such a thing were possible. it would not be best for us or for those with whom we deal. We should take from our customers such of their products as we can use without harm to our industries and labor. Reciprocity is the natural outgrowth of our wonderful industrial development, under the domestic policy now firmly established. What we produce beyond our domestic consumption, must have a vent abroad. The excess must be relieved through a foreign outlet, and we should sell everywhere we can and buy wherever the buying will enlarge our sales and productions and thereby make a greater demand for home labor.

The period of exclusiveness is past. The expansion of our trade and commerce is the pressing problem. Commercial wars are unprofitable. A policy of good will and friendly trade relations will prevent reprisals. Reciprocity treaties are in harmony with the spirit of the times; measures of retaliation are not. If perchance some of our tariffs are no longer needed, for revenue or to encourage and protect our industries at home, why should they not be employed to extend and promote our markets abroad? "

The farmers and stock men have felt for some time past that they were being robbed of markets for their surplus products which would come to them under a wise tariff concession. To illustrate:

Germany is the second largest buyer of food products in the world. She would probably take from $50,000,000 to $75,000,000 worth of American farm products annually under any fair scheme of reciprocity. France would buy perhaps half as much under reasonable trading arrangements. The American farmer has a 4,500,000,000 crop of cereals this year. The question is what shall be done with the enormous product after the home consumption has been met?

* * *

Secretary Wilson's Annual Report.—The report of Mr. Wilson, Secretary of Agriculture, has been made public. As usual, he treats of agricultural conditions in a most interesting and comprehensive manner, so much so that we cannot well summarize the report in less space than is taken in this writing. Passing the subject of unreliable reports made by correspondents of the Department of Agriculture, which the Secretary calls special attention to, and refers to Congress for consideration, he takes up the subject of agriculture direct and summarizes the results of the year as follows:

Four crops make new high records as to value—corn, hay, wheat, rice, although in amount of production the corn crop is the only one that exceeds previous yields. In every crop the general level of production was high, and that of prices still higher. Besides the enormous yield of wealth, the Secretary estimates that the farms of the country have increased in value during the past five years to a present aggregate of $6,133,000,000.

"Every sunset during the past five years," he says, has registered an increase of $3,400,000 in the value of the farms of this country."

This increased value, the Secretary suggests, is invested better than in bank deposits or even in the gilt-edged bonds of private corporations.

Analyzing the principal crops for the year, the Secretary says that corn reached its highest production at 2,708,000,000 bushels, a gain of 42,000,000 over the next lowest year, 1899; hay is second in order of value, although cotton held second place during the two preceding years. The hay crop this year is valued at $65,000,000. Cotton comes third with a valuation of $575,000,000; wheat, $525,000,000; oats, $282,000,000; potatoes, $138,000,000; barley, $58,000,000; tobacco, $12,000,000; sugar cane and sugar beets, $50,000,000; rice, $13,892,000; dairy products, $665,000,000, an increase of $54,000,000 over last year.

* * *

"The farmer's hen," the Secretary says, "is becoming a worthy companion to his cow. The annual production of eggs is now a score of billions. Poultry products have climbed to a place of more than half a billion dollars in value, so the farmer's hen competes with wheat for precedence."

There are more horses, and with a larger aggregate value, than ever before, notwithstanding, as the Secretary says, they were "threatened by the cycle and later by the suburban trolley and automobiles." He estimates their value at $1,200,000,000, or nearly as much as the corn crop.

Although milch cows are increasing in number and value, the report states that other cattle and sheep have for several years been decreasing. There are 17,570,000 milch cows, valued at $482,000,000. Other cattle are numbered at 43,669,000, with a value of $462,000,000. Swine number 47,321,000, valued at 283,255,000. In the aggregate the value of farm animals has increased a few million dollars within the year, and since the census of 1900 have increased 9 per cent. With this enormous production, the Secretary says, the wants of 83,000,000 people have been supplied with a surplus constituting a generous contribution to other nations. The exported farm products during the fiscal year ending June 30, 1905, had a value of $827,000,000, which was less by $51,000,000 than the average exports for the five preceding years. In accounting for this, the Secretary says that, owing to the short wheat crop, there was a decrease in the export of that cereal amounting to $41,000,000, of $5,000,000 in the exports of packing house products, and another $5,000,000 in fruits and other minor items. The increase included $9,305,000 in cotton; $4,700,000 in oil cake and oil cake meal; $4,000,000 in vegetable oils, and $2,000,000 in rice and various minor products.

* * *

"During the last sixteen years," the Secretary says, "the domestic exports of farm products have amounted to $12,000,000,000, or $1,000,000,000 more than enough to buy all the railroads of the country at their commercial value and this with a surplus for which there was no demand at home."

Secretary Wilson points out that the farmer is taking an important part in developing the manufacturing interests of the country by furnishing raw material and that he has also become a banker. The farm contribution to manufactories during the year were $2,673,000,000. Under the amendment of the national banking laws authorizing the incorporation of banks with a capital of less than $50,000, there have been 104 such banks established in the last year,, nearly every one of which is located in a rural community and the capital furnished by farmers. Speaking of the increase in deposits in banks by farmers, the Secretary states:

"In the North Central States farmers have been depositing money in the banks until the rate of interest on deposits has fallen so low that they have diverted a large portion of their savings to permanent investments. In spite of the fact that the banks do not receive and keep all or most of the farmers' savings the increase of bank deposits in agricultural States and the larger regions is most extraordinary.

"Still more remarkable is the bank statement for the South Central States. Deposits increased 18.1 per cent in Texas. For the first time in the financial history of the South, deposits in the banks of that region now exceed $1,000,000,000.

"The foregoing remarkable increase in bank deposits in agricultural States as well as the increase in the number of small country banks, are directly and indirectly because of the profits that have come to the formers from the operation of the farms. The man with the hoe has become the man with the harvester and the depositor and shareholder of the bank."

Secretary Wilson says the increase during the five years past of medium farms in the western division was $5.36 per acre, while the average increase for the United States was $27.53. Farmers are changing from less to more profitable crops.

The report concludes: "Should there be no relapse from his present position as a wealth producer, three years hence the farmer will find that the farming element, about 33 per cent of the population, has produced an amount of wealth within ten years equal to one-half of the entire national wealth produced in three centuries."

* * *

The Business Situation.—Notwithstanding the flurry in the New York money market last week, and the agitation of reform running through the life insurance examinations, the collector of customs of the port of New York announces that while October of last year was a splendid month for business, October of this year shows up a much better record.

For example: In October, 1904, imports of gold amounted to $1,291,989. October, this year, they amounted to $7,410,407.

October of last year our exports from that port amounted to $47,000,000. This year there is an increase of $1,000,000 for the corresponding month.

Every official report bearing upon national trade tells the story of an expanding prosperity for the American people.

From a California standpoint, conditions could scarcely be bettered. The timely rains of the season have put the ground in fine working order for the putting in of grain crops, the prospect for a bountiful return of citrus fruits was never brighter than today, while money literally rolling into California from Eastern real estate buyers and homeseekers insures an easy market for a year at least.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The first carload of olives was shipped recently from near Elsinore, to Los Angeles and brought $65 per ton.

About one-third of the Julian apple crop which was still ungathered was ruined this week by the snow and cold weather.

According to statistics furnished the supervisors this month, there have been more oranges than peach trees planted out in Tulare county in the past year.

The Victoria Avenue Citrus Association of Riverside has abandoned the co-operative plan and has begun proceedings in the Superior Court to wind up its affairs.

The walnut crop throughout the Saticoy section is very light, only fiev have been shipped so far, while last season thirty-six cars were shipped up to the same date.

Thirty carloads of oranges went out from the Orange depot of the Santa Fe during the week ending last evening. The shipments of green peas are becoming quite heavy.

The grape season has just about ended. The shipment from now on will be mostly apples. It has been a fine season for grapes. The crop has been good and the prices excellent.

Reports from Anaheim state that the Loara walnut crop is very little this year. The shipment last season amounted to twenty-two cars, while this season there will be only ten or eleven.

The cherry crop in California was short this year. Only 75 cars left the State. We should have at least 275. The pear crop was also short. The shipment numbered 1012, but it should have been 1700 or 1800.

The California peach shipments this year were heavier than ever before. The total number of cars shipped was 1946. Peaches brought good prices in most instances. The shipments of plums and prunes were also heavy and good prices prevailed.

The apple shipment will be heavy. Most of the apples are forwarded from Watsonville and the Santa Cruz Mountains. The crop this year is a good one, and the apples are as fine as any to be had. Altogether the season has been a most successful one.—Sacramento Bee.

The deciduous fruit season, which is just about ended, has been one of the most successful that the California fruit growers have ever experienced. Crops were large on all varieties of fruits with the exception of cherries and pears, and high prices prevailed all during the season.

Valley Center, in San Diego county, seems, from late reports, to be one of the most productive regions of the south. They report the sale, during the past season, of apples to the amount of $10,125; hay and grain, $7,600; creamery products, $5,000; cattle and hogs, $8,200; fruits, $3,500; and wood, $7,800, besides many products o flesser note.

The total number of cars of California deciduous fruit distributed in the Eastern market this year has already reached the enormous figure of 7583. This is 2496 more than were shipped to an even date last year. It is also larger than the shipment two years ago. The shipment this year will be the largest of deciduous fruits ever forwarded from the State. It will number more than 8000 cars.

J. E. Burnham of Pomona writes that "the Columbia Everbearing Raspberry so closely resembles the Black Cap that one would take it for it, but for the purple color. They grew luxuriantly and bore finely through June July and August. Since then they have borne lightly, but some are yet blooming. They grow fine, large canes and bear prolifically, a single cane sometimes bearing 500 berries. They propagate by tipping the same of the Black-Cap.

Redlands orange shippers have fixed a price of $2 per box f. o. b. Redlands, as a figure below which no oranges will be sold rfom this time until December 10. This agreement was entered into Saturday evening at a meeting held in the office of the Orange Growers' Association. There were present representatives of all the shippers in the city and in what is known as the Redlands section. This custom of fixing a price for the holiday fruit has been practiced for several years and it has resulted in holding up prices and stimulating the market.

AGRICULTURE.

Estimates are that the Orange county crop of lima beans will run about 80,000 sacks, while there will be about 4,000 sacks of the black-eyes

Imperial, Brawley, Holtville and Calexico are each expecting to hold a Farmers' Institute early in December.

About one-half of the crop of the Santa Ana Valley Walnut Growers' Association has been harvested, and it is now believed that the crop will fully come up to the original estimate of about forty cars.

The California-Mexico Land & Cattle Company has 4,000 acres of Kaffir corn in one patch near Calexico. There are 1,200 acres in corn on the adjoining ranches of Stahl Bros. and Pearsall Bros., Brawley.

Holtville, in the Imperial Valley, reports that garden vegetables, cucumbers, tomatoes, egg plant, green corn—all home products—are as beautiful now as at any time of the year. The second crop of tomatoes from the same vines is just coming in.

MISCELLANEOUS.

The latest reports from the Colorado river are to the effect that the work being done to control the inflow into the Imperial intake is proving successful and it is expected the entire flow will be turned down the old channel within a few days, perhaps by the first of next week. Arrangements are being made to run excursions from Los Angeles to see the work as soon as it is completed and the water turned on.

The Annual Convention of the California Water and Forest Association has been called to meet in San Francisco on Friday, December 1. The convention will be assembled at 10:30 p. m., in the rooms of the San Francisco Chamber of Commerce, and will discuss questions of vital importance to the farmer regarding irrigation and conservation of our water supply.

The crop of mustard that has been raised in the vicinity of Lompoc this year is reported to be by far the largest that has been produced in that section since the cultivation of the seed was commenced. Prices also have been exceptionally high and those who have not previously contracted with the commission houses for the sale of their output are reaping a rich financial harvest from the product of their mustard fields.

A ton and one-half of beans to the acre is the record of the Ballard ranch in the Carpinteria valley. This equals the heaviest yield ever known in the county. The crop amounted to about 150 tons.

C. C. Donovan handed over to the mayor of Santa Rosa a check for $6,361.11 for 243 bales of hops from the city's hop yard, the price paid being 10½ cents per pound. The amount goes into the city treasury and will help bear the financial burdens of the Rose City.

The relinquished portion of the Round Valley Indian Reservation comprising 66,000 acres in Mendocino and Trinity counties, will be opened for entry and settlement January 15th, 1906. Plats and full information can be obtained from U. S. Commissioner Con. H. Goldberg, Covelo, Cal.

The hop growers of Ukiah Valley met at Ukiah November 18, 1905, at the call of T. J. Fine, who stated that the object of the meeting was to adopt a uniform price ofr working hops. It was found that prices ranging from $14 to $21 per acre had been paid.

H. W. Hellman has sold to Christopher Reiker of Hollywood, 114 acres south of San Gabriel for a stated consideration of $17,100. The land is to be utilized for truck gardening.

LIVE STOCK.

E. E. Moore, Compton, Cal., advertises some thoroughbred Jersey calves for sale in this issue. His stock is high grade, as advertised.

The sheep raising experiments carried on this year in the Imperial Valley have been very satisfactory, though the coyotes have taken a goodly number of wool-bearers. Their feeding along the canals and ditches has a peculiar economic value in that they keep the banks free from vegetation, trampling them down hard and not caving the soil down into the water as is the case with cattle. It is estimated that enough food goes to waste in the valley to feed at least 50,000 sheep.

A farmer near Santa Rosa says that he has 15 acres that will keep 15 cows all right. Commencing with the natural growth he had excellent green feed for four months, chiefly bur clover, then for over a month he fed green oats. Corn suckers and tops kept up the flow of milk in his Jerseys for six months and the field yielded 70 bushels of corn per acre.

The first State poultry show ever held in California under the combined management of all the poultry organ- postoffice building, foot of Market and continues for a week at the ferry postoffice building, foot of market street. It is the largest exhibition of the kind ever held in the West, the exhibits being among the best ever shown. There are more than 2,000 head of poultry of various kinds, embracing nearly every known variety, and also 1,500 head of pigeons. Incubators will be hatching chickens every day, and there are exhibitions of all the phases of poultry raising.

U. S. Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, Nov. 27.

General Summary.—Cool and partly cloudy weather prevailed throughout the State the most of the week, with light frosts in some sections. Showers were of frequent occurrence and fairly heavy rain fell in all sections at the close of the week. The mountains are deeply covered with snow. High winds on the 20th caused some damage in the south.

The light rain of the preceding week was followed by drying northerly winds and very little good resulted from it, but the rains of the current week have been rapidly absorbed by the soil and will prove of great benefit to vegetation and orchards. The soil is now in very good condition, and plowing and seeding will be resumed at once. The rain was badly needed in the central and northern sections, both for the softening of the soil and to start feed. In Southern California the earlier rains had started pasturage and early sown grain, both of which are now thrifty; the soil is in excellent condition and work is progressing rapidly.

Orange orchards in all sections are greatly improved by the rain. Southern California oranges are ripening slowly but satisfactorily Quite a large portion of the crop in the Oroville and Porterville districts has been picked and shipped, and harvest is progressing in all sections. Walnut picking is completed in some places and the yield is below average. Olive picking and pickling are in progress.

Eureka Summary.—Rain the latter part of the week put the ground in good condition for plowing and seeding. Weather too cold to start grass. Apple shipments continue.

Los Angeles Summary.—Weather favorable for vegetation in all sections except southern mountain districts, where snow damaged apples and rain beat down pasture. Occasional light frosts in some sections did no damage.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

WAIT A LITTLE LONGER.

For announcement of biggest cattle sale to be held in Southern California at De Lamo, (2 miles south of Compton) December 19th. 330 head of of cows and horses.—Briggs & Weber, Auctioneers.

LINERS

FRUIT GROWERS, ATTENTION.—USE Griffith's Smudge Fuel. Don't let your fruit freeze when you can be protected by using Griffith's Smudge Fuel. Stoves, 50c each; 20 stoves per acre, stove good for ten years. Fuel $8 per ton; 16 lbs. to the stove lasts four hours. Address, 1023 So. Broadway, Los Angeles.

C. H. SESSIONS, ASSOCIATE EDITOR

ABORTION—CAUSES AND TREATMENT.

In the handling of a herd of dairy cows there are two diseases that in all probability will confront every dairyman, and a third that may. I refer to milk fever, abortion and tuberculosis.

A thorough understanding of the nature of these diseases on the part of the breeder, and what steps it is advisable to take to avert them if possible, and if they cannot be averted, what is desirable to do to minimize them, is essential to every dairyman.

In former issues of The Advocate and Dairyman, tuberculosis and milk fever have been discussed at length, and that is my purpose to do the same of abortion in this article.

In endeavoring to give the reader an understanding of this disease, I shall purposely clothe my words in the plainest language possible, so that they can readily be understood by every dairyman and breeder who has an interest in this subject, and I shall, for a like reason, abstain from all technical expressions.

"Abortion," in the case of cows, is the term used for the expulsion of the foetus before it can live a separate existence from its dam. It is possible for a calf to live, with very great care and under favorable conditions, after the two hundredth day of the cow's pregnancy. Techinically speaking, when the expulsion of the foetus occurs after the two hundredth day of pregnancy, it is called "premature calving," but among dairymen and practical breeders the dropping of a calf any time within 21 days of the full time it should be carried is called "Abortion."

Abortion may properly be divided into two classes—contagious and non-contagious. There might properly be called a third class—"sympathetic abortion," but it is generally divided into the two former—contagious and non-contagious.

Abortion, properly speaking, is a disease, If a cow loses her calf previous to its full time from some natural cause, such as a hurt, a fall, a slip, over-severe exercise, a blow, being chased by dogs, bad weather and exposure to cold rains, undue excitement, being injured by passing through too narrow a door, the presence of offensive odors, being taken long distances by rail in advanced pregnancy, it is abortion, though it may not be of a contagious nature, and while it may not be communicated to other cattle, the cow who has so aborted will be more subject to abortion with her next calf, and steps should be taken to avert its recurrence, about the time she aborted before, and for the month following. If your cow aborts and you cannot trace it to any known cause it will be safer to treat her as a cow who has aborted from disease. Isolate her from the rest of the herd. Examine her vagina carefully after she has "slipped her calf.' The natural discharge from non-contagious abortion is similar to the white of an egg; if there is any dark, murky, offensive discharge, or any white discharge mixed with the dark, murky matter, or specks like the fat of beef mixed with the clear, transparent discharge, you may be pretty well assured that it is contagious abortion, and such discharge is full of germs of abortion.

Non-contagious abortion may also be caused by drinking too cold water copiously, or ice water, or eating frozen roots which chill the stomach and reduce temperature of the uterus, to so low a degree as to kill the foetus. The over-feeding of cotton seed meal will produce it, and it is well known that smutty corn, ergotted grasses or bran from ergotted rye will cause abortion. While excessive chill to the stomach will produce abortion, acute fevers will also do it, from increasing the internal heat of the dam to such an extent as to kill the foetus.

Putrid, stagnant water is hurtful; both contagion of the foetus and abortion have often been traced to this source, and where pure water was substituted for stagnant the cause has been removed. Bloating will very often cause abortion, or disease of the ovories, kidneys or bladder. Abortion very often comes in wet years. Rye grass is especially subject to ergot, which is a fruitful source of abortion. Ergot and smut are not so injurious, if fed in conjunction with roots, ensilage, etc. Musty hay or corn will is a fruitful source of abortion.

Manure kept under the cow stable is a fruitful souce of abortion.

Long and exhaustive inquiries have been made into the causes and cure of this disease by the ablest veterinarians and scientists in this country and Europe, and it is generally conceded that the cause of contagious abortion is a germ. A head of cattle may be perfectly free from it, when suddenly it appears in one cow who will lose her calf from the third to the eighth month of pregnancy. This will be followed, after an interval of three or four months, by another aborting, and then in a few weeks to two or three months by another, and so on, until it at last obtains a perfect foothold in the herd, and unless checked and prevented will run its course through the entire herd. Were the cause traced to its true source, it would generally be found that some cow that has been brought into the herd introduced it, or that the affected cow has come in contact with a cow that has aborted, or that an attendant upon the affected cow has some time previously been attending an aborting cow, or that the utensils that have been used by him have been used near or with the affected cow, or it may be conveyed by the bull having served a cow that had aborted, thus introducing into the herd the germs of abortion.

Some cows will be bred to the bull, and then the next time they should come in "season" fail to do so, and possibly again at the next; then they will unexpectedly be in season again. This may be repeated by but one or many—and will probably occur frequently. While there may be natural causes that contribute to produce this irregularity, it is more often caused by the immature foetus being cast out, which is so small it is not found, but is really "abortion," and very often contagious—therefore must be treated as such.

The symptoms.—With a cow in milk there is no sign of approaching danger unless one is particularly on the lookout for it. If she be dried off, you may find sufficient warning in the flow of milk that will be made into her udder, the filling of the teats and swelling of the vulva, which loses its crinkled form and presents a fat and flabby appearance. But as a rule with a cow in milk she apparently is in perfect health and contentment, and gives you

Washed in 1 minute

A Big Difference

One Minute's Washing as compared to at least fifteen. Wouldn't you like to save at least fourteen minutes twice a day? **One minute** with a cloth and brush cleans the absolutely simple Sharples Dairy Tubular Cream Separator bowl shown in the upper picture. It takes fifteen minutes to half an hour with a cloth and something to dig out dents, grooves, corners and holes to clean other bowls—one of which is shown in lower picture.

Washed in 15 to 30 minutes

Count the pieces — notice the difference—and you'll understand why the one who has to do the cleaning prefers the simple Sharples Tubular.

There are other advantages just as much in favor of the Tubular. Write today for catalog V 260—it tells you all about the gain, use, and choice of a separator.

The Sharples Separator Co.
West Chester, Pa.
Toronto, Can. Chicago, Ill.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE **DE LAVAL SEPARATORS**

we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.

DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

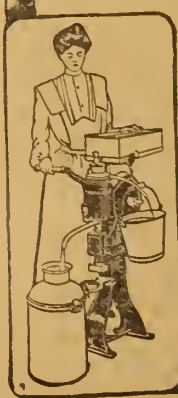
YOUR MONEY BACK = QUICK

5 Cows and a U. S. made $45.00 month
7 Cows but no U. S. made $11.00 month
The U. S. makes the difference $34.00 month

Staunton, Ill., Sept. 25, 1905.

I hereby certify that on April 20th, 1903, I bought of your agent one of your No. 7 U. S. Cream Separators, and after using it for more than two years, I am more than satisfied. In 1902 I sold the milk of my seven cows to the creamery and realized from said cows an average of $11.00 per month. From the herd in the spring of 1903 I sold two of the seven cows and milked the other five, and my income from the five cows was $45.00 per month. a difference of $34.00 in favor of the U S. Separator If necessary I will make affidavit as to this statement.

E. D Bruce.



Now, how quick did Mr. Bruce get his money back? Well, the *extra* profits alone paid for his U. S. in just about 10 weeks. Many thousands of satisfied users prove the

U. S. CREAM SEPARATOR,
[Which Holds World's Record for Close Skimming

is the most profitable separator a farmer can buy. It does the best work the longest time with least trouble and smallest expense, and it

PAYS FOR ITSELF - QUICK

Send for free catalogue No. 550 F that tells plainly the reasons why.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.
18 Distributing Warehouses throughout the United States and Canada 421

Prompt Delivery Assured California customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

no warning until too late to prevent the disaster.

With heifers who have never had a calf it is different; as a rule their udders swell gradually and the vulva distends slowly, provided they be six or seven months in calf.

When it occurs.—Abortion usually occurs during the fourth to the eighth month, but it may occur at any period of pregnancy.

With a cow that has aborted, the time at which she will abort with the following calf is usually extended a month; that is, if the cow has aborted for the first time in her fifth month, she will generally abort the next time in her sixth month, and following it, in the seventh, and so on. I have noticed, as a rule, that where cows would have aborted at the fifth or sixth month of pregnancy, had not the threatened abortion been averted, they have a natural tendency to abort the eighth month.

If a cow threatens to abort, remove her at once from the rest of the cows and keep her as quiet as possible. There are several advertised and well-known abortion medicines on the market. In an article such as this, I cannot recommend the use of any particular one. But some such medicine that you have been in the habit of using should now be given the cow.

If the cow is nervous you can give her, in addition to the medicine, one ounce of laudanum and repeat it in six hours. If the threatened abortion is accompanied by a discharge of matter unnatural to calving, such as I have heretofore described as indicating contagious abortion, the membranes of the calf bag have been affected and eaten away by the germ, and nothing will save the cow from aborting.

The same remark applies to a cow in which the membranes have been affected by the germ previous to treatment being begun, because no medicine will rebuild decayed tissue; or the calf may be dead at the time of the beginning of the treatment, and no medicine will restore life.

If, however, there be no rotting of the tissues when the cow threatens to abort, and you take her in time, you can possibly avert the threatened abortion. Any medicine used for that purpose to be effective must act as a sedative and a nervine, quiet the cow, take away the bearing down pains, and besides act as an astringent directly upon the uterus, tending to draw up the mouth of the uterus and prevent the foetus from coming away.

If the cow has aborted in the barn, and it is contagious abortion, remove her from the barn as quickly as you discover it. Remove the calf, the afterbirth and all discharge and bury them deep in the ground. Burn all straw that she has come in contact with. If any blanket has been upon her boil it, If any utensils have come in contact with her or the discharge, disinfect them thoroughly. Wash the floor, sides and posts of the mangers, and sprinkle the sides in the locality in which she was with a disinfectant. Wash the tail, vulva, hind quarters and udder of the cows in the stable who are pregnant with a disinfectant. Repeat this washing every day for a week, and three time a week thereafter for a month. Disinfect the barn by burning sulphur, closing up all windows, doors, etc.

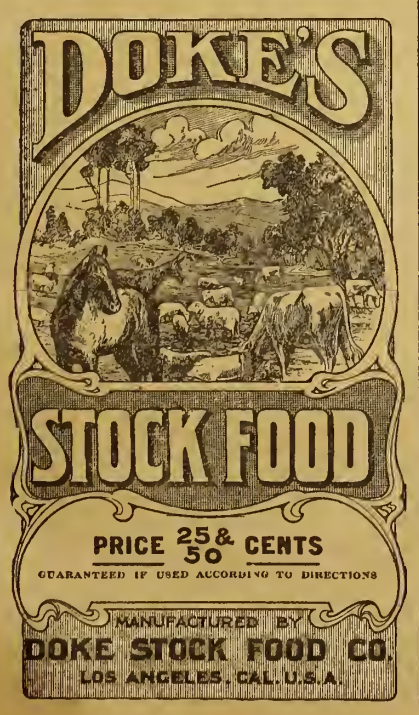
An excellent disinfectant is made by dissolving one dram of corrosive sublimate, one ounce of alcohol and glycerine, and shaking up well in a gallon of water. This may be used both as a wash and an injection. It is poisonous and must be kept carefully out of the way of man and beast.

The reason why all these precautions are taken is, that if it be a case of contagious abortion the cow in discharging the foetus will discharge with it the germ of abortion, or previous to calving she may have thrown out this germ with the discharge. It seeks and obtains a lodgment upon the rear portions of the cow, is taken into the vagina and passes into the uterus, where it begins its deadly work. After a time it eats the membranes of the calf bag, causing them to slough off, and the foetus is discharged, carrying with it innumerable germs, and leaving in the uterus of the cow similar germs.

The object of burning sulphur in the barn is to destroy these germs. If by any chance they have found lodgment in the vagina of other cows, they are destroyed by the injection If they have not found lodgement in the vagina, but upon the rear portions of these cows, by washing with bichloride of mercury disinfectant you destroy these germs and prevent their being taken into the vagina, and later passing into the uterus.

This injection is best accomplished by the use of a rubber hose about four feet long, which can be inserted far into the vagina—as far as it will go—raising the part of the rubber hose out of the vagina to an elevation higher than her back, and inserting in that end of the hose a funnel through which you pour the injection. In this way the injection reaches nearer the uterus than it otherwise would do.

We will have something more to say on this subject in our next or an early issue.—Valency E. Fuller.



SORE TEATS.

Editor Cultivator: I have a young cow with sore teats, what shall I do for her?—S. C. P., Azusa.

Wash her teats with warm water and castile soap and wipe dry. Then apply this lotion:

One part turpentine and two parts lard and thoroughly mixed by melting the lard, then adding the turpentine and stirring until cold. Keep this mixture in the cow barn and whenever a cow's teats show a tendency to chap or crack, rub a little on after milking.

ADULTERATED BRAN.

A press bulletin from the Pennsylvania Experiment Station says:

The station has recently examined a sample of bran submitted by a Westmoreland county farmer with a statement that cattle refused it and when they do eat it are purged, and that hogs eating it sicken and die, one farmer in that county having lost six hogs in this way. Upon examination the bran was found to contain rice hulls.

These hulls, produced abundantly as a waste from the rice milling industry, differ materially from the hulls of barley, wheat, rye and oats because of the fact that they contain sharp particle of silica. These are extremely irritative to the mucous lining of the digestive tract of the animals eating the hulls. The irritation produced is so intense that many animals are sickened and often killed because of this action of the rice hulls. Hogs and heifers have been especially injured where attempts have been made in the southern states to feed this product, and the experience in this locality has shown these hulls to be an absolutely dangerous ingredient of stock food.

Rice hulls have been found in western samples of wheat bran sold in New England and in the middle West, but this is the first case, to the writer's knowledge, in which the adulterant has appeared in Pennsylvania. The sample in question showed large particles of yelow hulls that were readily detectable upon careful examination of the bran by the unaided eye. With a low power lens the outer surface of the hull is seen to be marked by fine parallel lines covering the whole surface quite uniformly and extending parallel to the long axis of the hull. This appearance is quite different from that shown by barley and oat hulls. Owing to the extremely dangerous character of this adulterant, buyers should be especially on their guard against it. Not long since a dairyman near Long Beach complained to the Editor of the Cultivator that he was getting adulterated bran, and his cows were showing the effect in the milk they were giving. It would be well to examine the bran before buying in any considerable quantity.

AVERAGE FARM CATTLE.

"The kind of farm we have, nearness to market, and our likes and dislikes are all to be taken into consideration when determining the kind of cattle we handle, writes M. C. Logan in Successful Farming.

The amount of clear money that can be made is what counts in any line of farming. If situated near a good market that will take all the butter, cream and milk that can be produced at a good remunerative price and we have a liking for the work and are willing to watch closely every little detail that goes to make up a successful dairyman, then by all means select a dairy breed. But if not near a good market, select one of the beef breeds. By careful breeding and good management I know of no better way to make the old farm pay, if adapted to stock raising. I have calves come the last of February and March, and by the time grass is ready to turn, the calves are at an age to stand the extra flow of milk and make rapid gains from the start. We usually let them suck until about six months old but long before this they are taught to eat shelled corn, oats, bran, etc., and a few weeks before weaning the milk supply is gradually decreased until it finally ceases entirely and with the grain and plenty of good grass their development is steady and regular."

Thoroughbred Poland China Swine and Black Minorca and Barred Rock Poultry
High grade stock of best strains Young stock for sale M. BASSETT, HANFORD, CAL.

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Berkshire Boars For Sale
At Gen. Shafter's ranch near Bakersfield. Fifteen fine, young Boars on hand, now old enough for service. They are out of Imported English Sows, Artful Lee sire. Prices from $15 to $20. Address
Gen. Shafter · Bakersfield, Cal.

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd Also Black Minorca chicken eggs in season. Stock for sale, also bred sows W. R. McCASLIN & SON. Walsh Station, Sacramento County, Cal.

Registered Shorthorns
—MILK STRAIN—

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal

For Catarrhal Fever
Pink Eye, Distemper and all diseases Nose and Throat
Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1.00 per box, ½ doz. $5.00. Sold by druggists, or sent express paid
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal.

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.

WIRE FENCE
CLOTH GOODS · NETTING · WORK · BARB WIRE
HOG · COW · HORSE · SHEEP
WEST COAST WIRE & IRON WORKS
19 FREMONT St. SAN FRANCISCO

The secret of growing a first-class calf is never to let it become stunted. We have found that it pays best to market at an early age, when they are anywhere between 15 and 18 months of age.

If they have been pushed as they should they will weigh from 900 to 1200 lbs. and command the highest market price, and will make more clear money than they ever will after that.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

6 Thoroughbred Jersey Calves

FOR SALE

High-grade stock. Pick of the herd. $50 each. Write or call on

E. E. MOORE - COMPTON, CAL.

Must be Sold by January 1st, 1906

Having sold my ranch, I am forced to sell 40 head of Registered and Grade Jerseys. Ten registered cows, milking now; 4 young heifers, eligible; 8 bulls, registered or eligible; 18 cows and heifers, pure bred and grade, not eligible. This herd represents some of the best blood on this coast. Parties wishing to see the stock can take Santa Ana electric car and get off at Hansen. Station is right at the ranch.

W. J. Cole, R. F. D. 1, Anaheim, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***if not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of

Geo. W. Thomas, Riverside, Cal.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of **Marigold's Exile King**, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want

J. A. CAMPBELL, Buena Park, Cal.

BEDDING COWS.

These are pretty cool nights, and they will soon be cooler, and wet, as well. The cows will have to be sheltered in barns or sheds and the problem of bedding them is up to the farmer. It is very necessary that the cows be well bedded, that they may rest well as they lie chewing their cuds, for at that time the manufacturing process of milk production is going on and is greatly influenced by the comfort and humor of the cow. In selecting a material for bedding, the cost must, of course, be one of the chief considerations. After this its power to keep the animals clean, the amount of dust it contains, and its effect upon the land when hauled out with the manure, may be considered.

It must be said that sawdust, everything considered, is the most satisfactory of materials used. It keeps the cows cleaner than anything else and stays in place better, and it not as easily shoved around as is straw. It can be made to look cleaner and neater than other materials, and, unlike straw it is entirely free from dust and it makes good manure.

THE LITTLE FARM BUYERS.

Not long since two gentlemen were driving by the home of a successful farmer. As they passed the barn lots a thrifty little sow pig crossed the road before them. They remarked about the beauty of the animal, says Wallace E. Sherlock, in Farm, Field and Fireside, and the older of the two said: "You may not believe me, but I can take that little sow and in four years with her increase, buy the best eighty acres there is in this neighborhood and have enough hogs left to stock up the farm and pay a good share of the expense in their keeping."

At first thought the statement does not seem possible, but a little figuring will prove that it is not far from the truth. We will suppose that the sow and all her female increase will farrow for the first time when they are a year old, and give birth to a litter every six months thereafter, and that each litter will average six pigs, three males and three females.

At the end of the first year we have the sow and six pigs—three males and four females. In eighteen months the sow has a second litter. This brings the total up to seven sows and six males. After two years this sow has her third litter, and each of the three sows of her first litter also farrow. This gives us a total of nineteen sows and eighteen males. In two years and a half the three sows of her second litter are old enough to farrow. This brings our number up to forty females and thirty-nine males. In three years the sows of the first, second and third litters will farrow, and in addition the nine that were born to three of the first litter. This increases the number to ninety-seven females and ninety-six males. Thus it goes on in progression till at the end of four years, when we have a total of 508 females and 507 males, hogs enough to buy a good-sized farm.—Blooded Stock.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

Eggs, 50c per Dozen

EGG FOOD — A·C·W — IT FILLS THE BILL

Trade Mark

The users of A. C. W. Egg Food are happy, THEY have eggs to sell.

If you do not use A. C. W. Poultry Foods, Blood, Bone, Beef Scraps, Etc.; you are not getting the goods that give results.

A. C. W.

Stands for Agricultural Chemical Works, the largest **manufacturers** of Poultry Foods. We are not jobbers or dealers but make our own goods and have for twelve years and ship in carload lots all over the State. Our goods are guaranteed free from preservatives, chemicals or **diseased meats** Many of the diseases in Poultry Flocks are caused by feeding infected food.

A. C. W. FOODS ARE PURE, ARE GUARANTEED. ARE SEALED.

The Agricultural Chemical Works stands behind the **guarantee.** We manufacture **Egg Food, Chick Food, Blood Meal, Meat Mea , Beef Scraps, Shell, Grit, Bone, Etc.,** on the basis of **quality first,** and prices as low as we can make them.

A. C. W. Egg Food holds the California Record for Egg Production. If your dealer cannot supply you, we will direct.

Agricultural Chemical Works

Phones: Home 6063; Sunset, Boyle 3. 901-907 Macy St., Los Angeles, Cal.

Write for "Hen Hints," a book of valuable information free.

AUCTION

AT 10 A. M.

TUESDAY, DECEMBER 5TH,

51 FINE COWS AND HEIFERS

One Block West of High School Building at COMPTON.

35 head of as fine Dairy Cows as can be found in the Country, mostly large Holsteins and Durhams, a few Jerseys, many fresh, others coming in soon, all in good condition and big milkers.

15 Head fine Heifers from 6 months to 1 year old.

1 Fine Holstein Bull. 2 good Work Horses.

2 Farm Wagons, 1 Milk Wagon, Harness, Plows, Rakes, Harrows, Tools, and all my Farm Implements. This is one of the choice Dairy Herds of the country, and I wish it distinctly understood there will be no by-bids; everything will be sold without limit or reserve as I am obliged to quit the dairy business. Terms: Six months time with note and approved security. Free Lunch at noon.

MATH LIPPUNER, OWNER

RHOADES, REED & RHOADES, AUCRS.

Office, 730 S. Spring St., Los Angeles

ALFALFA FOR BROOD SOWS.

Former Governor Hoard, of Wisconsin, is a great believer in the value of alfalfa, growing a great deal of it on his farm. In a recent number of his Dairyman he refers to his experience in keeping his brood sows in winter on alfalfa, says:

"Our own experience for two years in wintering brood sows on alfalfa hay has confirmed us in our opinion as to its great economy, as well as the fact that the resulting crop of pigs is much superior to those from sows wintered on corn in the usual way.

"The brood sow is called upon to create a number of off-spring, and it is but common sense to conclude that the food from which she is to derive the material for this important work should be of the right kind. The work of gestation calls for a large amount of protein in the construction of these little bodies. The food, therefore should be of a protein kind that is easily assimilated and digested. The second and third cutting of alfalfa hay, if it be nicely cured, seems to fill these requirements completely. An ear of corn or a pint of corn meal a day will furnish all the carbon that is necessary, though we have not used any corn whatever. The objective point in this treatment of the sow is to secure strong, vigorous pigs, that will survive and grow nicely. In this we have been more than satisfied. The sows keep in good flesh, fully as fat as we want them to be, and they eat the hay with great avidity. The cost of keeping is thus reduced to a very low rate which is something of a consideration in these days of high-priced feed."

AUCTION

Hamilton Dairy

Thursday, Dec. 7, 9:30 A. M.

Good Blood Counts in Cattle. Here is the best at prices of common cattle. Don't miss it

160 Holstein and Jersey Cows. Fresh and Coming Fresh, 75 Holstein and Jersey Heifers, 1 and 2 Yrs Old, 4 Registered Bulls

Horses, Wagons, Etc.; 600 tons Corn Ensilage; New 6 Gang 8 in Plow, Barley Seeder, Alfalfa Seeder, Corn Planter, Etc.

Family and Dairy Cows, large sized cattle, many imported and registered, and all sired by thoroughbred Bulls. Positively the best herd in Southern California.

Great Registered Holstein Bull College Sarcasm, 32039 H. F. H. B., also Shattucks Pogis Lad, 48933 A. J. C. C., and Dean Marigold, 57910 A. J. C. C., two fine Registered Jersey Bulls.

Largest Sale Ever Held Here. Positively No Stock Reserved and No By-Bidders

TERMS—6 months' time with note and approved security. Liberal discount for cash. Cows will be delivered to Los Angeles without charge, or to your home in the city for $1.00 charges. For further information write undersigned.

From Los Angeles, take S. P. Downey train at 8:30 a. m. to Patata, (in front of Ranch). From Santa Ana, take S. P. Los Angeles train, 7:40 a. m., to Vinevale, (in front of Ranch). From San Pedro or Long Beach, take Salt Lake R. R. to Nadeau Crossing. Trains stop in front of the Ranch. On electric car, take Whittier car, Sixth and Main streets, at 8:45 a. m. to Baker, teams in waiting. Ranch located 2½ miles W. of Downey, 1¼ miles south of Bell tract, adjoins Cudahy Ranch on the east.

BARBECUE AT NOON

HORACE G. HAMILTON, Owner

300 Fay Bldg., 3rd and H ll. Los Angeles

Telephones—Home 1045; Main 241

Rhoades, Reed & Rhoades, Auctioneers,

730 South Spring Street, Los Angeles

BUFF LEGHORNS

A few cockerels for sale. After Jan. 1 eggs from choice mated pens, $1.25 per 15

Chas. G. Miller, 40 Elm St., Watsonville, Cal.

Single Comb White Leghorns

Thoroughbred Stock. Eggs, $1.50 per 15. Send for illustrated catalogue.

John P. Boden, 138 Second Street, Watsonville, Cal

THE RAPP FENCE

The Most Practical, Durable and Lowest Priced Fence on the Market.

THE ROEBLING CONSTRUCTION CO.,

Broadway and 23rd St., New York

Write for Illustrated Booklet

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

OPERATING AN INCUBATOR.

(Continued from last week.)

Testing the Eggs.—All infertile eggs and dead germs should be taken out of the machine. Egg testers are sold with all incubators, and a very little practice will enable even a beginner to detect the infertile eggs.

To test the eggs, the tray should be removed from the incubator and placed upon a convenient table. If the temperature of the room is below seventy degrees it is well to put a light warm flannel over part of the eggs, to keep them from cooling too much. Put the tester on the lamp instead of the lamp chimney, and be sure that the flame is exactly opposite the hole in the tester. Hold the egg, with the large end up, close to the opening in the tester, and endeavor to look through the egg at the flame. Infertile eggs will be of a clear, uniform color throughout, except a slight darkening where the yolk lies. These should be placed in a receptable away from the tray. Fertile eggs show the germ like a dark irregular floating spot, and in white eggs the blood vessels can be discerned branching out from it. White eggs can be tested on the fifth day, dark eggs on the seventh day. Dark eggs are more difficult to test, as the light does not shine through them easily and the yolk may throw a shadow that can easily be mistaken for a germ. It is well in learning to test eggs to break a few, which may appear doubtful, and examine them. One can learn more quickly in this way how to distinguish the infertile eggs, and the knowledge gained is worth the sacrifice of a few eggs.

It is a great mistake to omit testing out the eggs; first, it is a saving, for the infertile eggs are perfectly good for cooking, they are merely eggs that have been kept for about a week in a rather warm place. Secondly, by removing them it gives more room on the tray for the fertile eggs, and they can be more easily turned and handled. Thirdly, the infertile eggs and dead germs are cold; they use up the heat and they chill the egg which lies near or touches them, drawing on its vitality.

* * *

A second test on the fifteenth day is necessary to remove the eggs containing germs that may have died since the first test. The dead germs usually have a slight odor which is not healthy; they have begun to putrify. They not only have an offensive odor by which to detect them, but they will show no development, will be a different color, and may appear streaky. All eggs containing dead germs should be removed from the machine and buried. On the fifteenth day, in the fertile eggs the chicks will be seen to nearly fill the shell except a small space at the small end and the air space at the large end. The movements of the embryo may be discerned at this time if the egg be held very steadily at the opening in the tester. On the eighteenth day the chick fills the entire shell except the air space, and the egg will be quite opaque as if two-thirds full of ink. To become accurate in egg testing requires practice and a brilliant light.

Follow the directions exactly and explicitly given with whatever incubator you may purchase. The makers of the incubator are anxious for you to succeed and have good hatches; it is to their interest for you to be successful. They have spent time and money in perfecting their own machines and understand how to manage them better than any one else.

* * *

One of the most important directions is that about the daily care of the lamp, for upon the lamp depends the hatch. The lamp must be filled and cleaned daily. The best oil must be used; the best is none too good. Inferior oil gives an unsteady heat. It is warmer when first lighted than ten or twelve hours later. Trim the wick carefully; never leave the corners of the wick high or ragged as a flame may result which will cause soot to be deposited in the chimney or smoke flue, checking the draught and liable to catch fire. Keep the tube clean and bright as well as every part of the burner, and thus lessen the danger of fire. A fresh wick should be put in the lamp at the commencement of each incubation. Great care must be used in getting wicks of the proper size and kind. If the wick be too large, or too thick, the oil will come up but cannot return, the burner and lamp will apparently "sweat" oil, there will be a disagreeable odor, and great danger of fire. The fires that have occasionally occurred can be traced to a defective wick or inferior oil. There must be a hole in the screw cap, where the oil is poured in, and if there is no hole, make one with a nail. This will prevent an explosion. Adjust the wick so that a moderate flame will keep the valve open about one-sixteenth of an inch. Trim and fill the lamp in the morning while the eggs are cooling, and if any change is required in the regulator do it at that time. Never touch the regulator at night. Do not fill the lamp quite full; leave an air space, otherwise when the oil warms it will expand and overflow and the lamp will flicker.

* * *

In a good incubator with a sensitive regulator it is rarely necessary to readjust the regulator more than twice during the three weeks of incubation. There is but little change during the first week in the temperature of the eggs, but when the germs develop and life begins to pulsate a considerable amount of animal heat is generated in the eggs and radiates from them. This increases as the embryo grows, and when the eggs show strong and vigorous fertility, about the twelfth day the regulator will require slight alteration and again on the fifteenth day after the dead germs have been removed. The eggs containing dead germs have no internal heat, and their influence is very chilling to the atmos-

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

Winner New York, 1904, score 97½. Used as a model in the American Standard of Perfection.

W. W. HOWARD'S

S.C. WHITE LEGHORNS

Best Strain, Best Birds.
Greatest Layers. Largest Eggs.

WIN THE BLUE AT THE ST. LOUIS WORLD'S FAIR.

FIRST PRIZE HENS, St. Louis World's Fair; also at Madison Square Garden, New York's Great Show, 1905.

All specials and medals—best hen, best head, pure color.

FIRST PRIZE COCK At Madison Square, New York, 1905, and beating St. Louis World's Fair and Boston winners.

FIRST PRIZE PULLET at Madison Square Garden, New York, 1905, as well as one of the best cockerels in the U. S.; were sired by our famous Rob Roy Jr.

Our patrons report grand success with pullets from our stock; 26 eggs per month, 56 eggs in 64 days, 18 eggs in 19 days; eggs that weigh 2½ to 3 ounces.

229 eggs already this season.

Improve your flock with one of our large, beautiful White Cockerels.

Birds and eggs for setting and the best Trap Nest made.

W. W. HOWARD.

(State Vice-President National S. C. White Leghorn Club)

3024 E. Main St., LOS ANGELES.
Phone East 235. Home 31169.

Largest Poultry Supplies House in the United States

GERMOZONE

A Whole Carload of It Just Received

Germozone is the best poultry medicine for Roup, Colds, Canker, Inflammation of the Throat Bowel Complaint and Chicken Cholera. Easily administered in the drinking water. They take their own medicine—and like it Germozone is the most popular and widely used poultry medicine on the market.

Price—Liquid, 50c; Tablets, 50c, postpaid.

Granulated Milk

One pound of Granulated Milk is equal to 2½ lbs. of beef free from bones and fat, for poultry. The hens fed granulated milk are the only hens that are laying.

315 S. Main St. Los Angeles **Henry Albers Co.** 110 Market St. San Francisco

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

phere in the incubator as well as to the eggs that contain living embryos. As soon as the dead germs are removed there will be a rise in the temperature that must be controlled by the regulator.

* * *

The Hatch.—On the morning of the nineteenth day the eggs should be turned for the last time. The machine should be closed and kept closed until the hatch is over. Opening the door, especially when the temperature of the room is below 70 degrees during the process of hatching may spoil or seriously injure the hatch, as it will permit a large amount of moisture to escape and cold air will be suddenly admitted. This will dry up the lining skin of the eggs that are pipped and check or prevent their hatching. It may also chill the half hatched or damp chicks and will be detrimental to all of them.

The lamp must be trimmed and filled on hatching day as on other days. The temperature will rise when the chicks are coming out lively, and should it go above 105 degrees the lamp wick may be turned down a little.

Leave the chicks in the machine until they are thoroughly dry. At the end of the twenty-first day all the chicks that are worth anything will be out of the shell. The chicks should not be removed from the incubator until the twenty-second day.

Should the hatch not come off until after the twenty-first day it shows that the heat has been insufficient; if on the contrary it comes off before the twentieth day it shows that the heat during part or all the time has been too high. Too low a temperature will give a weak hatch, many chicks will die in the shell and those that are hatched will be weakly and will never amount to anything. Too high a temperature is almost as bad. Too high a temperature during the first ten days of incubation will cook and kill the germ. One hundred and sixty degrees is danger point up to the tenth day. Germs which die between the first and second testing are frequently the result of over heating.

Too high a temperature during the last week of incubation will so weaken the bowels of the chicks that they will be unable to assimilate the yolk of the egg. The yolk of the egg is nature's perfect nourishment, which feeds and nourishes the embryo in the shell. During the last day of the chick's life in the shell the part of the yolk which has not been absorbed is drawn up into the chick. This forms its food and nourishment for about three days after hatching. But should the egg be overheated this yolk hardens, and even if drawn up into the chick it becomes tough from overheating, almost as if it were cooked and the chick's bowels weakened by the overheating are unable to assimilate or digest it. The yolk stays there like a bit of rubber, putrifies, blood poison ensues and the chick dies some time between the first and tenth day of its life. Chilling the egg during the last week has almost the same effect. It weakens the bowels, hardens the yolk and eventually the chick dies.

If our chats on "Biddy and operating an incubator" have been helpful, I will add a sequel to my story and take "Biddy and operating a brooder" for a future subject.

The Los Angeles office of Cultivator has been moved to 115 North Broadway, (upstairs.)

EDITOR'S QUESTION BOX.

[Questions are answered to the best of our ability and from practical experience. A request the editor makes is for enquirers to write only on one side of the paper, and always to mention the breed of chickens that may need treatment. Also to give all details as to symptoms, feed, care, etc.]

* * *

Lice.—(Mrs. A. M. F., Yuma, Arizona.) Can you tell me of any way that I can destroy the lice on my chickens? We have whitewashed the chicken house, and cleaned it out, put railroad oil on the roosts, sprinkled coal oil in their nests, and rubbed lard under the chickens' wings, and nothing seems to kill them. I want very much to know the easiest, quickest and surest way to destroy them, and I would be very grateful to you if you can help me.

Answer.—Make the following: Dissolve a bar of laundry soap in a gallon of boiling water, add to this a gallon of coal oil and one pint of crude carbolic acid, churn these together until cold. Take one quart of this mixture and put into ten quarts of warm water. Wash the hens thoroughly in this, soaking every feather to the hen's skin. Pull out all feathers that have nits (lice eggs) on them. Do this on a warm sunny morning. Examine in a week and if there are any lice repeat; or you might after once dipping your hens powder them thoroughly once a week or oftener with Lambert's death to lice. Paint the perches once a week with Lee's lice killer, but do not put it in the nests. It will flavor and spoil the eggs.

* * *

Limber Neck.—(A. N.) Could you kindly tell me through the columns of your paper what is the matter with my chickens? Please give cure also.

We have lost nearly seventy grown chickens in the past two or three days. The same disease took several before we had any rain, but the most have died since. We feed grain, bran and green feed as we have done for years. They have plenty of fresh water, grit and charcoal by them. A few died that were in pens, but the majority had free outside range on alfalfa. Some roosted in houses, others outside in trees. Surroundings are moderately clean, chickens are in good flesh and look as though they would soon lay. Pullets, old hens and roosters go alike. They have had no rotten potatoes. They are apparently in the best condition, when all of a sudden the head drops, they become paralyzed, and in some cases they are dead within a half hour, others linger several days motionless, while a few get well.

Breathing is somewhat hard, but it is not dyphtheria. Droppings are a trifle more watery than natural. We have plowed and sprayed the ground with crude carbolic acid, and we now seem to have the disease somewhat in check, but not entirely. No lice nor mites, nor can it be cholera from the color of droppings.

Answer.—Your fowls have undoubtedly what is called "Limber Neck." It is a disorder of the nervous system caused either from severe indigestion, over heating, worm parasites or poison.

It frequently comes from the use of spoilt meat or bad animal meal, or ptomaine poison of some kind, perhaps in milk. It is difficult for me to guess at what caused it in your flock.

Dr. Sanborn recommends a small piece of assafoetida or a two-grain capsule of assafeotida. Repeat the

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

I have only a limited number of breeding birds left at reduced prices. Order at once. Now booking orders for eggs for delivery after January 1st. Orders filled in rotation.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be fonnd East or West. Eggs and stock sold under an absolnte guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

The Incubator

That will hatch the greatest number of strong chicks is the one to buy. You can count on a big brood if you have a DEAN'S PACIFIC. "Facts from Experience" and catalog free.

Dean's Pace, 2509 Central Avenue, Los Angeles

Must Hatch Incubators and Brooders HAVE STOOD THE TEST

Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."

We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.

MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

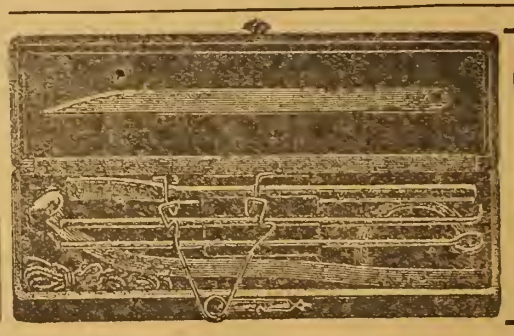
Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.

MISSION VIEW POULTRY RANCH

My Specialties: White Wyandottes and One-Quarter Wild Mammoth Bronze Turkeys

MRS. C. D. HUBBARD, P. O. BOX 422, FERNANDO, CAL.



Caponizing Set

Double Your Profits by Caponizing.

Complete with Instructions, $250, Postpaid

STOCKMEN'S SUPPLY CO.

FRESNO, CALIFORNIA

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; GOLDEN EAGLE MILLING CO., Petaluma; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

dose the second day. Dissolve one teaspoonful of hyposulphate of soda in half a cup of water; give a teaspoonful every three hours.

Bruised garlic fed freely, mixed with bread crumbs has also proved efficacious.

* * *

Tar.—(F. W. D., Sonoma). I am constructing a new brooder house, and in order to make a floor that would be thoroughly tight and not warp from the sun constantly shining on it, I intend to first throw fine sand over the floor and by sweeping off the surplus the cracks would be filled, then I will take very hot tar and give the whole floor a liberal coat. The tar being hot, will penetrate the wood and fill the cracks with sand and make a surface that will not be affected by the sun.

Now, what I desire to know before doing this, is whether there would be any objection to this method, or if the tar would be injurious to the little chicks if they should be able to pick any up.

Answer.—I do not think there would be any danger of the chicks being injured by the tar. It would be desirable to put a good layer of sand over it for the chicks to run on so that their tender feet would not come in contact with the tar.

* * *

Chickenpox.—(G. W., Pomona). I am doing a little in the poultry line, and have got some sort of disease among them; have tried to find out from other dealers down here, but none of them know anything about it. It commences with a running at the left eye, and the eye closes up, the beak turns a dark color, almost black, the cockerels get black spots like scabs or warts on their combs and wattles. If you can tell me what it is and what to do for them you will confer a great favor and I will be truly thankful. They are Rhode Island Reds.

I have some ducks. I got the eggs from Miss Dyer of Ontario. Would they be considered inbred?

Answer.—Your fowls have chickenpox. Wash their heads with warm soapsuds, to which add a teaspoonful of carbolic acid. Then grease the spots well with carbolic salve or carbolated vaseline, and give a little sulphur in their food. It is an infectious complaint and is caused by a germ. Mature fowls rarely die of it, but it kills young chicks and will prevent hens laying.

Miss Dyer's ducks are very fine and not inbred.

* * *

Standard Points.—(W. B. C., Modesto). Could you tell me how to find what are the accepted "points" required to pass fowls as White or Brown Leghorns, Black Minorcas, etc.? Are not the last practically the same thing as Black Spanish?

Answer.—You had better buy the new edition of the American Standard of Perfection. It has just been printed, giving the points for all the breeds. All poultry breeders should own one. The Black Spanish are white faced, otherwise they greatly resemble Minorcas.

HINTS TO BEGINNERS.

If your flock is composed of the common barnyard fowl, and you wish to improve your flock, get a setting or two of eggs from some reliable breeder of the variety you want to keep and make a start, says the North Dakota Farmer. The cockerels from the setting will be sufficiently numerous to take the place of all the old cocks on your place. Kill or sell off the old cocks as soon as the young ones begin to crow, and in this way grade up your flock. From such a beginning it is easy to convert the common flock into a thrifty flock of "grades" and at the same time have a pen for breeding purposes of pure strain. These may be used to bring up the home flock and to sell to others desiring to introduce pure-bred stock on the farm. Gradually remove all the old stock and "grades," and in a few years your farm will be stocked with pure-bred poultry of one standard variety, and it is best to have but one variety. It will save lots of work in preparing separate houses and separate runs for the separate breeds.

The White Plymouth Rock or the White Wyandottes are good, all 'round breeds. If you must have other fowls, put in Pekin ducks, Bronze turkeys, or Toulouse geese, thus having a variety, but nothing that will mix or give you extra trouble. Then be vigilant in your care of them; study them and make it easy for them to lay eggs by keeping them free from vermin, well housed and well fed. such treatment is sure to bring success, and that means that you are keeping poultry for profit.

If the American people will give more attention to their poultry it will be found that more profit from this source, in proportion to capital invested, is made than from any other farm animal. A hen without grit is like an old man without teeth—she can eat, but that is all. Food must be well masticated to be healthful, and grit is the only tooth a hen has. This applies to fowls kept in confinement. On the range they know how to take care of themselves.

Finely cracked mica is a good grit, or finely broken oyster shells, or coal ashes. See that the flock has all the water they want, and feed for a special purpose with good food, a little green food and meat scraps or fresh cut bone, but do not feed too much of the latter. Make good use of insect powder once a week for two or three weeks so that the mother hen will not be a breeding place for lice to get on the young chickens.

CALIFORNIA TURKEYS.

Turkey flocks are means of livlihood for a great many families in the Sacramento Valley, says a correspondent of the Country Gentleman. Turkeys are raised in flocks of from 500 to 3000 birds, valued at from $2 to $3 apiece. A flock of 3000 turkeys is more difficult to manage than a flock of 3000 sheep, for a turkey is a wanderer, a drifter and a tramp. The only way to keep the bird healthy and plump is to let it drift. The turkey herder merely follows the flock with his shepherd dogs, and in a general way directs the course of the bunch.

MIX THE DIET.

Laying hens need a mixed diet, with plenty of bulk; hay or bran, exercise with their hard grains, and a small percentage of animal food in some shape. Apples, cabbages, waste and trimmings of all vegetables, raw or cooked, and a warm, soft feed once a day, go far to complete that sufficient and stimulating variety which serves so well to fill the egg basket. Constant attention is, after all, the one indispensable requisite. There must be an interested eye that marks promptly every sign of ill condition and remedies the difficulty, whatever it may be.

Overfed hens get too fat to lay well.

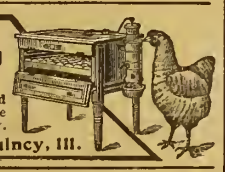
The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

Single Comb White Leghorn Cockerels For Sale
A1 Stock, Standard Bred. Address
A. H. BLAKELY - ONTARIO, CAL.

Choice Alfalfa or Chicken Ranch
Twenty acres good sandy loam soil, no alkali, abundance of water, 5-room house, large barn and incubator cellar. Near Anaheim.
WM. A. GREEN, BOX 401, ANAHEIM, CAL.

WHITE AND BUFF Leghorns
Old and young stock for sale. Eggs after January 1. Write for prices.
J. F. Sarmento, R.F.D Box 4, San Leandro, Cal.

BUFF ORPINGTONS and BARRED PLY. ROCKS
Pure Bred and High Types. Eggs, $2.00 per 14; 3 settings, $5; $7.00 per 100. Males, $3.50 to $5.00. Trios, $7.50. Pens, $11.00.
B. M Stone, - R. F. D. 6, Fresno, Cal.

$12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
GEO. H. STAHL, Quincy, Ill.

BLUE ANDALUSIANS
Eggs for hatching after November 15th from three noted strains. Morse, Cosh and Griffith Pens headed by prize-winners from Madison Square, Chicago, Toronto and Los Angeles. Some grand young stock for sale. Incubator orders a specialty this year, from $7.50 to $15 per 100. Settings from the best matings, $2.50 and $3.50 per 14. Fertility guaranteed. For further information write to
MRS. T. R. GRIFFITH, 3111 Walton Avenue, Los Angeles, Cal.

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

Walnut Grove Poultry Ranch
Standard Bred White Wyandottes, (Hay's strain). Eggs for hatching from carefully mated stock, $2 per 13; $12 per 100.
F. L. Hogue - Carpinteria, Cal.

WHITE LEGHORN CHICKS, 10 Cts. WHITE PLY. ROCK CHICKS, 12½c.
Both from good stock and in good healthy condition. The W. P Rock males where I got my eggs are from prize winning stock. Leghorns are selected and have good markings. This is a fine time to start young chicks, after the rain; yards purified, green growth coming and mites and lice at a disadvantage.
Wm. A. Green, Box 401, Anaheim, Cal.

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE.
Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
D. A. REEVE, Gilroy, Cal.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.50 and $3.00. per 14 Exhibition and utility stock for sale 132 Ave 32, Los Angeles, Cal.

BARRED ROCKS, WHITE MINORCAS, INDIAN RUNNER DUCKS AND WHITE HOLLAND TURKEYS
Prize winning birds at Central California Fair, where 7 firsts were won in '05.
JOE McDONALD, R. F. D. 2, HANFORD, CAL.

LINDGREN BROS. KINGSBURG, CALIFORNIA McPHERSON, KANSAS
BUFF LEGHORNS BARRED ROCKS
Prizewinners at Chicago, St Louis, San Francisco and majority of prizes at Portland on Buffs Choice Cockerels and Pullets for sale.

RHODE ISLAND REDS
Fine large stock, heavy layers, best of broilers. Eggs, $1.50 per setting.
J. D. Setzer, Northrup and Pedro Sts., San Jose, Cal.

Breeding Cockerels
WHITE LEGHORN BLACK MINORCA
One Hundred. Good Stock. A few pens of choice stock for sale. Write for prices
Avenue Poultry Yards Ventura, Cal.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the Last Los Angeles Show Our Birds Won Twelve Prizes.
Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks
Duck Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100. Ducklings 10 days, old, 25c each. Ready now.

SQUAB BREEDING
and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL.

Mountain View Poultry Ranch
S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

PRUSSIAN POULTRY FOOD
A 25c package makes 750 feeds. If you once try it, you'll never be without it.
A Noted Poultry Authority Testifies.
Prussian Poultry Food is a good thing as our hens are **looking so well** and they **continue to lay.** I have heard several good words for **Prussian Poultry Food** while on my Institute Tour. People say that it keeps the fowls well.—IDA TILSON, of the Minnesota Institute Corps, West Salem, Wis.
HEALTHY FOWLS, HEAVY LAYERS, industrious hens, rapid growth of chicks, are the results of feeding **Prussian Poultry Food.** It keeps things going in the poultry business. **"Poultry Profits,"** a perfect guide to poultrymen and owners of live stock, mailed free if you write what stock you own and where you saw this offer.
Pkgs. 25c and 50c; Pails, 25 lbs. $3.50.
For Lice, Mites, and vermin use **Prussian Lice Killer** (liquid), 50c and $1.00, or Prussian Lice Powder, 25c and 50c.
Prussian Remedy Co., Dept. B **St. Paul, Minn.**
AGENTS: Vaughan Seed Store, Chicago, Ill. J. W. Wilder & Co., Cincinnati, O. Portland Seed Co., Portland, Ore., Germain Seed Co., Los Angeles, Cal. Lee-Pioneer Seed Co., Denver, Colo.

General Agricultural Notes

DOES PUMPING FOR IRRIGATION PAY?

Below the surface is an extensive stream; this can be used for irrigation; the only question is, will the pumping of this water for that purpose pay? One of the many advantages of the pumping plant during our long, dry summers is that the water can be had and applied when it is needed and where it is needed. Irrigation is superior to the natural rainfall in a climate like that of California. In cases of this kind it is certainly an advantage to have plenty of water at your command. There is not much fertilizing property in water under ordinary circumstances; it is only at certain seasons of the year that the streams carry any great amount of this quality, and then it is at a time when the minimum of water is being used for irrigation. It is true that overflows often carry a large quantity of silt; but this silt is frequently deposited in the bottom of the ditches, and must be removed, but little of it reaches the soil. It is not proper to cite the Valley of the Nile; conditions there are different from those existing here. There the land is completely submerged by water carrying a large quantity of rich soil in suspension, and when the water gradually recedes this deposit left upon the land and enriches the old soil upon which it rests. As I have urged, one of the most important advantages with the pump is that we have the water when needed.

Don't wait until the open ditch comes; go down beneath the surface and get your water, where God keeps it in store for just such purposes. In Southern California 30 or 40 acres of alfalfa are often irrigated by pumping; they conserve this water by conveying it in cement pipes to where it is used; and they claim it pays to do this. The alfalfa is used in producing feed for dairy cows, and their milk is turned into butter and cheese, and this in turn is sold at a profit. Why cannot this be done here by the same means?

The speaker cited many instances where fruit growers had used pumping plants advantageously and profitably. He said that in many places where ditches existed pumping plants had been installed, and in all cases they had given satisfaction, because water was obtainable by this method later in the summer than was possible by the former. Your supply is always available. Hundreds of these plants existed throughout Southern California, and were deemed satisfactory and profitable. He said that it paid to pump at all times where conditions were favorable. In this locality water in abundauce was near the surface, and it was our duty to use it; God had placed it there to conserve it for man's benefit. If this subterranean stream were exposed to the sun's rays the evaporation would amount to about eleven feet during the summer. The best pump was the centrifugal, and gasoline engines were generally the best means of operating it; electricity was also good; in large plants steam was often used, with crude oil for fuel.

In Southern California the average depth of pumping was about 90 feet, but in some cases water had been raised upwards of 500 feet to reach higher levels to irrigate lemons, and it paid to do so. Where small holdings exist, the cost of plants were not very great, and the cost would be greatly reduced by co-operation among a number of those desiring to avail themselves of this method of irrigation.—Prof. D. T. Fowler.

OKRA OR GUMBO.

Okra is an ornamental Hibiscus (H. esculentus) from the tropics, the immature pod of which is used for flavoring soups and meat dishes, especially stews. No copper, brass, or iron cooking vessels should be employed in preparing okra, as the metal will be absorbed, the pods discolored and sometimes rendered poisonous. Cook in agate, porcelain, or earthenware.

The okra likes a rich friable soil, well pulverized and after a fair start, will use a considerable quantity of commercial fertilizers. Plant in rows four feet apart, in hills like corn, or drilled. Cover seeds one or two inches deep. When well established, thin to three or four in a hill or if in drills to a foot or two feet apart, according to whether the dwarf or large growing varieties are used. Down in Uncle Sam's plant garden at Santa Ana, they almost grow into trees. As soon as the plants begin to set fruit the pods should be gathered each day, preferably in the evening. The pods should be gathered irrespective of size, while they are still soft and before the seeds are half grown.

EGG LAYING CONTEST.

Results of the third annual egg laying contest at Sidney, Australia, have just been published. The Australian egg laying contests have become quite interesting to poultry breeders in this country for the reason that a number of hens from the United States annualy participate in the contest, and they usually make a very good showing.

Out of 100 pens which participated in this year's contest was incluuded Silver Wyandottes, White Leghorns, Black Orpingtons, Black Hamburgs, Buff Orpingtons, Buff Leghorns and many other of the well known egg laying breeds. It will be noted that the Silver Wyandottes head the list with 1224 eggs per pen, but that some pens of Silver Wyandottes did not lay much more than half that number. In other words it is but fair to state that no one breed carried off all the honors. A good many White Leghorn pens are close to the top of the list.

DEFORESTATION AND CLIMATE.

Dr. Hennig recently gave an address on the influence of forests upon climate before the May meeting in Berlin of the German Meteorological Society, in which he adduced a number of coincidents where the depletion of forests appears to have been attended by dryer conditions. According to Consul-General Gunther of Frankfort, who has summarized the address for the Consular Reports, Dr. Hennig said that the climate of Greece, where today only 16 per cent of the area is covered with forests, has become drier. An increase of temperature and decrease of rain are noted, as compared with ancient times. This is especially noteworthy in Attica, which was thickly covered with forests about 3000 years ago, and where hardly any rain now falls; while the heat in the open air attains a degree of intensity that would make the indulgence in athletic sports, once famous, now almost an impossibility.

Similar conditions exist in the peninsula of Sinai, where thousands of years ago the people of Israel found a luxuriant and fertile country, though today it is a desert. Palmyra, also once a flourishing oasis in the Syrian desert, presents today only a waste of stones and ruins. In Mexico, where the Spaniards cut down the forests in the mountains, droughts changing to devastating floods are now noticeable, especially in the neighborhood of the City of Mexico. In Algeria, where, since the middle of the last century, the forests have been cut down on a large scale, dry weather has increased; and in Valenzuela the level of Lake Tacarigua, to which Alexander von Humboldt drew attention, has been lowered in consequence, it is said, of deforestation.

WAIT A LITTLE LONGER.

For announcement of biggest cattle sale to be held in Southern California at De Lamo, (2 miles south of Compton) December 19th. 330 head of cows and horses.—Briggs & Weber, Auctioneers.

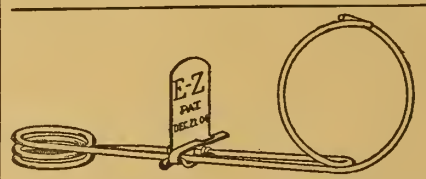
The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

WOODMANSE STEEL WINDMILL
BEST MILL ON EARTH
On account of its removable bearings will pump more water than any mill on earth.
F. H. OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

Ranch for Sale
To close an estate, we offer 33 acres near Compton, for sale. Choice alfalfa land. Best artesian well in that section. Water to sell. Address
Phone Main 922 C. F. LEE, Pasadena, Cal.

"Go to Gardena"
In direct line of city growth toward the sea; best alfalfa and dairy section, abundant supply of irrigating water.
For Sale—$5500.00—20 acres; 4-room house, large barn, chicken houses, corrals, etc. Some fruit trees, 5½ acres of alfalfa, fine sandy loam soil, Will subdivide if desired.
$3500.00—5 acres—house, barn, alfalfa, some fruit trees, corral, etc., fine sandy loam soil, water piped, near two car lines.
W. M. Gray, Gardena, Cal.

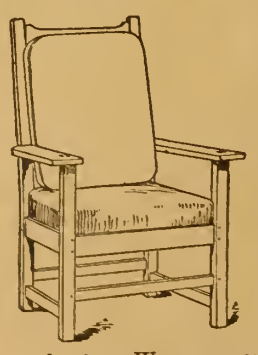
THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino



Ask Your Dealer for the E-Z Gopher Trap
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth
J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

The Quality Store
M. & B. CLOTHES

The kind that fit and wear well are made with style and are backed by the time-honored mark, the guarantee of this label
Mullen & Bluett Clothing Co.
Los Angeles.
Spring and First Sts

"Dependable Furniture at a Fair Price."
True Mission Furniture

The Old Mission styles of furniture are the most favored and the most used now. The plain, simple lines and the peculiar finishes of the weathered oak and the dark rich mahogany are decidedly pleasing and are in strict keeping with the bungalow form of architecture which is so popular in this section of the country. There is a great diversity of style and finish even in these special lines and just as great an opportunity exists for inferior workmanship. The mission furniture from the factory of the famous craftsman, Gustav Stickley, is acknowledged to be the finest in the country—made entirely by hand even to the smallest parts and every joint is mortised and pinned and made to fit perfectly. We are agents here for this superior furniture and constantly carry a very large and selected stock. All mail orders given prompt attention.
"All Goods Marked in Plain Figures."
NILES PEASE FURNITURE CO.
439-441-443 SO. SPRING ST., LOS ANGELES. CAL.

Queries and Suggestions

RUSTY WATER PIPE.

Editor Cultivator: Please permit me to submit the following question: An irrigation (steel) pipe line of 16 inch put down sixteen years ago begins to burst now. Which of the two would you advise to do, lay an entire new line or cement around it the entire length? Yours, H. W. H., Gardena.

If your pipe is rusty the entire length you had better take it out and put in new. Cement is not very satisfactory. Water will in time break through it, and repairs must be continually made.

LOGAN BERRIES.

Editor Cultivator: Can you tell me how to prune Loganberry bushes? I think I saw in the Cultivator once that I should cut all off close to the ground, but it don't seem to me that is the proper way.—A Subscriber, Los Alamos.

Some growers cut them clear down, but more leave canes of the old growth about sixteen inches high.

PICKING OUT A COW.

Editor Cultivator: Can you give me any pointers on picking out a good milch cow. I have bought and sold again three cows which were guaranteed to be excellent milkers, but neither of them proved what was claimed for them. I am almost discouraged in the effort to find the kind of cow I want.—H. J., Imperial.

We do not know of any hard and fast rule to guide you in buying a cow. It is like buying a horse, we have to go a good deal on "looks." Some men can tell a good cow at sight, they walk around her, size up her points, and make up their mind as to the quality of the animal from her general appearance.

But there are certain natural conditions which attach themselves to a cow which one accustomed to looking at cattle will observe at a glance, and they may usually be depended upon to give a pretty good index to her character . These homely signs are helpful to one looking for a cow for family or dairy use. Some of these points we give here:

The cow ought to be of fairly good size, so that she can eat a good ration. She should have a large udder and good sized teats. Following the milk-vein along to the entrance to the body, in a good cow we should expect to find a hole large enough to take the second finger readily. Some hold that the vein itself should be large and crooked. The cows should have a thin neck and a slender tail. She should be wide between the hind legs . She should have a good, honest look in the eyes. She should stand handling well. When milked she should enjoy the process if the milker be a good hand at it. A couple of rudimentary teats behind the four fully developed ones are a good indication. If added to this we know the owner of the cow to be an honest man, and he tells us that the cow is a good one, if we can agree on the price we may be reasonably sure that we have gotten the worth of our money.

BUDDING ON SEEDLING ORANGES.

Editor Cultivator: Please tell me the best season and method for budding or grafting old seedling oranges to navels.—N. A. N., Pasadena.

Grafting has now given way to budding. The best time is in the spring when the sap flow is strong, though some bud in the fall and allow them to lie dormant till spring. Two methods are in common use: One is by cutting back old trees, forcing a new growth and budding into the best of these, removing the balance. The other, which has been very successful, is budding into the trunk or main branches of the seedlings, and afterwards cutting off the heads. The latter method has one advantage—all the buds may be inserted the same height—quite an item in regard to both appearance and availability of future crops in picking. This practice necessitates budding on high branched trees in the trunk and on low branched trees in the main branches, but the outcome is fine, evenly grown, well shaped trees.

ABOUT VIOLETS.

Editor Cultivator: Please help one of your regular readers by answering the following questions:

(1) Name of violet best adapted to this section? (2) How to prepare the soil for them and the distance between the plants? (3) What treatment necessary after planting to secure best results? (4) Will the plants do well if planted under trees? (5) Is there any known way of forcing them to bloom during the summer? (6) Where can I get plants and price per hundred? (7) Do you know of any book on the subject of violet culture in Southern California. If so, where can I get it? —L. C. S., Lemon Grove.

(1) Princess.

(2) Violets like a rich, loose soil, with a top mulch of light manure during the heated term and don't forget to give them a generous supply of water at frequent intervals. Put your plants in several exposures, not all in the shade, so that you may be able to gather violets over a considerable period. Growers disagree on distances. Some cultivate every other row with horse and keep the alternate rows close together. You then pick from the cultivated rows. Plant one foot apart.

(3) Keep the soil on top loose, free from weeds and use a manure mulch to work in surface soil, so that roots will be cool and moist. Never allow plant to get dry.

(4) Yes, if water is supplied to overcome the demands of the tree roots.

(5) Not that pays commercially. Summer is too hot for them. By resting them somewhat and then watering and fertilizing heavily you could get summer blooms under tree or in cold frames, but financially it would be a failure.

(6) Any advertiser of ornamental plants in this issue; see floricultural page. Cannot quote you price, that is the advertiser's business.

(7) None such has been written.

Special attention is called to the nursery advertisement of Stewart Bros., Los Angeles, Cal., in this issue. The firm is one of the oldest and most reliable in Southern California.

A subscriber wishes the names and addresses of several Holstein breeders in Southern California. Breeders who forward their address to this office will be placed in communication with the party.

There are said to be 150 carloads of cattle held for shipment along the Rock Island Railroad near Liberal, Kan., with not a car to take them. Some of the cattle, driven in from distant ranges, have been held for several weeks.

CALIMYRNA FIGS.

When California once commences producing figs (good figs like the Calimyrna) on a commercial scale, there will be as much demand for them as there is for other classes of fruit, for which California has already acquired a reputation. The ordinary White Figs have injured the fig business to such an extent that it is difficult to convince the trade now that California really produces a fig equal to the imported. Some of the dealers, who have not seen the Calimyrna Fig, came to the conclusion that California figs are worthless and always will be so.

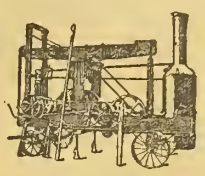
The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

AUCTION SALES.

Elsewhere in this issue we print the announcement of two stock sales to be held by Rhodes, Reed & Rhodes, as follows:

On Tuesday, December 5th, they will sell for Math Lippuner at his place at Compton, 51 fine cows and heifers, besides farm implements.

On Thursday, December 7, they will sell for H. G. Hamilton at his ranch 2½ miles west of Downey, 250 head of blooded dairy cattle. Look up these ads. for full particulars.

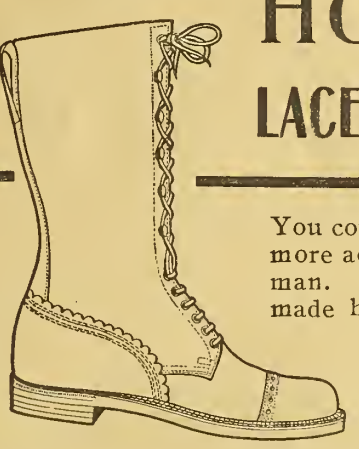


WELL DRILLING MACHINERY
Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.
Kelly & Taneyhill Co
13 Chestnut St Waterloo, Ia

A PAIR OF

HOEGEE'S

LACED BOOTS for a Christmas Gift!



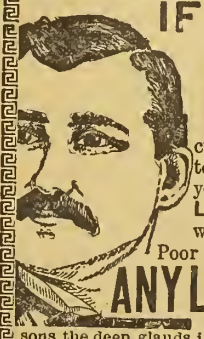
$ 3.50
5.00
6.50
10.00

You could hardly think of anything more acceptable to the outdoor young man. These laced boots are being made handsomer. more durable and comfortable all the time and are growing in popularity wonderfully fast. We have them in various styles, heights and many kinds of finish from black down through the various shades of tan to pure white; also in variously tinted buckskin effects—some of which look delicious enough to be served on the table. All joking aside, these boots are really works of art, both as to looks and construction; being made over the best lasts and reinforced and made wearproof and waterproof as far as human ingenuity goes in that direction. A pair coming down the pike, with their jaunty lacings of white rawhide, and the pride-of-the-family safely planted inside, is a sight to see. Send for our outfitting catalogue at once and read carefully.

The Wm H. Hoegee Co., Inc , 138-142 S. Main St., Los Angeles. Fx's 87.

I WILL GIVE $1000

IF I FAIL TO CURE ANY CANCER OR TUMOR
I treat before it Poisons Deep Glands or Attaches to Bone.
NO KNIFE OR PAIN, NO PAY UNTIL CURED.
NO X-RAY OR OTHER SWINDLE.



A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. **3000 CANCERS** cured on people you can see and talk with. **ANY TUMOR, LUMP OR SORE** on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.

ANY LUMP IN WOMAN'S BREAST IS CANCER

It does not pain until almost past cure, and if neglected it **ALWAYS** poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. **INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK,** sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.

DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]
23 AND 25 THIRD ST., NEAR MARKET ST., SAN FRANCISCO.

PLEASE SEND THIS TO SOME ONE WITH CANCER.

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

IN GOD'S COUNTRY.

Miss Emma F. Edmondson, a former teacher in the Santa Barbara schools, wrote the following worthy verses. Miss Edmondson was ill at Indianapolis, Indiana, and this was the manner in which she accepted her brother's invitation to return to California:

I'm going back to California,
Where the sweet magnolia grows,
Where there isn't any thunder,
Any lightning, hail or snows,
Where the air is ever fragrant
With a million odors sweet,
And the salt of dear old ocean
That comes rollin' at your feet,
Where the scenes are ever new
And the skies are ever blue,
Where 'tis either Spring or Summer
In God's country.

I'm going back to California,
To its olive, fig and vine,
To its oranges and lemons,
To its peppers, gum and pine,
To its canyons, rocks and mountains,
To its valley and its sea,
To its sunshine and its poppies
And its grand Yosemite,
Where the scenes are ever new
And the skies are ever blue,
Where 'tis either Spring or Summer,
In God's country.

Breaking the News to Him

It was a difficult situation. To be sure, Marcella had not actually flirted with Ackley Henderson—she refused to include the verb in her well-bred vocabulary—but then—

Men are so queer—So apt to think that one means things when really one is actuated only by ordinary courtesy and the gayety of the moment and cheerfulness toward the world in general. When a man calls very regularly is that any reason why a girl should consider him in love with her? Marcella assured herself, indignantly, as she twisted up her hair. Why, dozens of men had called on her in the last five years, and only three or four had asked her to marry them. Each of these men had seemed surprised when she refused. Therefore, why should she worry for fear Ackley Henderson should take it badly and think himself ill treated when he learned she was engaged to an Eastern man? The wedding was set for June, and Marcella felt that she must break the news. She told herself that she would do it that very evening, and was surprised to find herself turning to ice at the thought.

She stared at her own face sternly in the glass. It was not that she had a lingering fear lest she cared for Ackley—not a bit of it! The man down East had all her heart, but she did like Ackley immensely in a friendly fashion, and dreaded his displeasure. Just why should she think he cared for her? She demanded a reply as she fiercely searched for another hairpin. He had never said anything, but then, words are not always necessary. One week ago, when she had been playing at the piano, on turning suddenly she had caught his gaze fixed on her with such an open tenderness that the blood had rushed to her face. He had carried it off well by asking in the next breath some irrelevant question, but it had started her to thinking.

Really, it was too bad for Ackley. He was such a reserved, odd person that one could never tell what he was going to do next. He never confided in his friends, though apparently he was free and open.

She searched her memory sharply. Had she ever given him the slightest right to fancy she was especially attracted by him? Of course, she had been interested in his yachts and his theories on the proper way to drive a horse, and his favorite books, but that was only what ordinary politeness called for. If one did not talk to a man about the things in which he was interested what on earth would become of conversation?

Marcella jabbed in the last pin and straightened her sidecombs, and just then the bell rang. Heaving a long sigh, she went down to greet Ackley Henderson. He was so particularly happy and cheerful tonight that it made her task doubly hard. How should she begin? She could not plunge into the subject abruptly—she wanted to glide into it gracefully and by degrees—but somehow she could not manage the conversation. And all the while Ackley beaming joyously at her.

Marcella shivered. She wished she could remember a few times when she had been rude to him—the memory would brace her up—but there was nothing but unremitting and gracious kindness on her part in the hateful past. She wondered if he would tell her what he thought of her when she told him of her engagement, or whether he would take it quietly and go away and brood over it. She didn't know which would be worse.

She chattered fluently on everything under the sun, but at last talk ran slow. Silence fell. Marcella felt it was now or never. She leaned forward and fingered the paper cutter lying at her hand and spoke in a low voice. She did not look at him.

"I'm going to tell you something, Ackerley," she said. She could feel that he was all attention, instantly. "I—perhaps I should have told you—told some people some time ago, but I—well, I didn't. I—you've met Bob Puyster of New York? I'm going to marry him in June.' She ended with a rush.

After an instant she raised her eyes bravely to meet his stricken face. Then she started in bland amazement, for Ackley Henderson was smiling surprisedly, delightedly.

"Why, I'm greatly pleased," he cried, heartily. "Van Puyster is a fine chap. I'm glad to hear it. And I might as well tell you there's a girl down in St. Louis that is going to be Mrs. Henderson next fall—and your profile and hers are identical. Every time I look at you I'm reminded of her, though, of course, you're not alike."

Marcella was speechless. For one mortal hour she had to sit and listen to the praises of another girl sung into her astonished and reluctant ears, and she smiled as though she liked it. Her own engagement he apparently dismissed from his mind. He was about the farthest from a heartbroken man one would care to see.

Yet when Marcella took down her hair that night she broke three of the shell pins, because she was thinking so hard and indignantly.

Girls, there is no doubt, are queer.—Chicago News.

A DANGER IN HOME MEDICINES.

When we read such articles as the following which attack our household remedies, articles which we keep in stock and have sworn by ever since we had a home—and before, too—it is calculated to make us wish Congress would hurry up and pass that bill to make food and medicine companies subject to government inspection and to punish adulterations thereof.

The medicinal writer of the New York Mail and Express presents these startling facts as to the dangers we encounter in using some of our most trusted home remedies. He says:

"We have on hand a bottle of camphor, extract of witch hazel, or bay rum to comfort the unexpected headache, cure cut fingers, or bathe away bumps and bruises. These remedies have come down to us from our mothers and grandmothers, who have profited by their use and have had every confidence therein; so we take their virtues for granted and seldom stop to consider their purity.

In this day of commercialism and substitution, some ignorant and unscrupulous manufacturers have taken advantage of this fact, and for the pure grain alcohol, which is the basis of most of these spirits and extracts, have substituted its dangerous namesake "wood alcohol." The reason for this is that wood alcohol is cheap, costing about 15 or 20 per cent. of the value of the pure grain alcohol, and by so doing enables the seller to attract trade by offering pints, quarts or gallons at a very small price. The danger of it is that wood alcohol causes sudden blindness and death. It is most distressing, is it not, to think that in some of our medicines we are buying that which will kill instead of cure? It is true, however. Dr. Frank Buller of Montreal and Dr. Casey Wood of Chicago, both noted specialists, have found through investigation, more than 175 cases of blindness and over 100 deaths for which wood alcohol has been directly responsible.

In an investigation recently made to determine the adulteration of commercial witch hazel, 70 samples were bought from as many leading drug and department stores in different cities, and analyzed. Out of the 70 samples, 52 were found to contain a large percentage of formaldehyde (poison) or wood alcohol (poison), or both, while the few remaining samples were weak and watery.

The distinguishing feature of wood alcohol poisoning is that it attacks the eye directly, and even where death does not ensue, total blindness is almost invariably the consequence. Poisoning from wood alcohol may be caused by its internal use and by absorption through the pores or a small break in the skin. Think of that and what it means. One of the children comes to you with a cut on his finger and you apply cheap witch hazel to prevent the soreness which follows. Suppose the witch hazel contains wood alcohol or formaldehyde (and it is likely to do so), the poison is quickly taken up by the blood, and blindness or blood poison is sure to result. Your husband calls for a bottle of witch hazel after shaving. If the witch hazel is adulterated with wood alcohol or formaldehyde, think of the chance of poisoning by absorption through the freshly-opened pores, or a slight cut left by the razor. You have a headache and bathe your forehead with camphor, or put a cloth dampened with common extract of witch hazel across your eyes. If wood alcohol has taken the place of pure alcohol in these remedies. and a drop of it gets into the eyes, total blindness is almost sure to follow.

There are a hundred and one ways in which we use these remedies and a hundred and one times we take chances of blood poison and blindness from the wood alcohol with which they are adulterated.

Now the question is, what is to be done? These remedies in their pure state are helpful, necessary and almost indispensable in the home; and we have a right to expect them to be pure. The thing we must do is to be sure of their purity when we buy them.

When you go into a store to make a purchase of this kind, call for the standard product of well-known reputation, and accept no substitute, that you may be guaranteed that it is the pure grain alcohol, and not poison, which has been used in the manufacture of these articles.

It rests with you as a duty to be sure that you have the right product, and to tell others of the danger of using a cheap substitute; and as the public demands its right, those who make or sell medicines which are not pure realize that they must make them pure. Always buy, even at a greater cost, a standard article.

Pat Murphy entered a Liverpool railway station. It was going to be his first ride on a train. As he approached the ticket office a young lady called for Marry Hill, single; it happened to be a station on the line. Our hero's turn came next. He shouted, "Pat Murphy, married!"

Doctor—Well, John, how are you today?

John—Verra bad, verra bad. I wish Providence 'ud 'ave mussy on me an take me!

Wife—'Ow can you expect it to if you won't take the doctor's physic?—Punch.

OPIUM and **Whiskey Habits** cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

Ostrich Plumes MADE OVER

We clean, redye, make over and curl boas, tips, plumes, etc., and add new top feathers to plumes when necessary. Send your work at once or write for prices. Satisfaction guaranteed.

CAWSTON OSTRICH FARM AND FACTORY
P. O. Box 1072, South Pasadena, California

The Green-Marshall Co.

Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Call. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED

A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

Cookery Recipes

Curries.—Curries are easily made if the experimenter is content to begin with simple receipts. Almost any meat or vegetable, not to speak of fish and fowl, may be curried, and experience lets the light in on a number of delightful combinations. Curried chicken is perhaps the best thing to begin with. Cut up the chicken as for stewing. Fry an onion, half a tart apple, and, if there is no prejudice against the fragrant herb, two cloves or garlic, all cut up fine in butter until of a golden color. Put the chicken in this, and fry until slightly brown The object is to sear the outside of the fowl. Now season with salt, white or red pepper, and two heaping teaspoonfuls of best curry powder Turn the pieces over and over to distribute the seasoning. Just cover with hot water, cover tightly, and cook slowly for three hours. Before covering, add half a cupful of grated fresh cocoanut. Just before serving squeeze in the juice of half a lemon, taste and add extra flavor if desired. Sometimes a few drops of kitchen bouquet greatly improves the flavor. Serve perfectly boiled rice in a border, and put plenty of gravy on each plate. Chutney should always be on the table. There are many varieties of this preserve, but one of the milder kinds, such as the world-famous "Major Gray's" is best liked.—New York Post.

* * *

Tomato Bouillon.—A can of tomatoes and a quart of strong bouillon, one small onion chopped fine, a bouquet made with six cloves, twelve whole peppers and a half a teaspoonful of celery seed wrapped in bayleaf. Boil and strain. Allow the bouillon to cool; heat again, and serve at once.

ABOUT UNDERWEAR.

Wearing woolen underwear is a subject which medical men differ over as much as any other subject. Some physicians recommend their patients, and even well people, to wear gauze cotton vests under their woolen vests. They recommend it for two reasons. In the first place some skins are so sensitive that they cannot endure wool next to them unless it is very fine and even then it is irritating. Secondly, the woolen garment does not require washing as frequently if a cotton vest is worn underneath to absorb the secretions from the pores of the skin. The cotton one may be washed each week, while the woolen one is aired and worn again without washing. Woolen garments thus wear much longer, as they often shrink badly, or the lye used in breaking the water or the soap rots them.

The fleece lined underwear has become quite popular. It looks pretty when new, but the fleece rolls and mats when laundered, and soon wears off. The weaves which throw a cotton thread underneath and a woolen one on top are also much used. If they are not sold as a deception there may be some merit in them.

Most persons would retain better health if they wore at least a light weight woolen garment during the cold weather. Wool is a poor conductor, so it forms a good protection for the body; it does not allow the body to cool off quickly and guards against changes of temperature. Those who can afford to wear silk underwear say it is just as warm as wool and more comfortable.

THAT LOUNGE.

One of the handiest things about a house is a lounge in the dining room, upon which father may lay down for a rest for thirty minutes after dinner. Then when the dinner work is done, mother can rest herself and be prepared for the work to come in the evening. If you can not afford to buy one, get the boys to make a stout frame and make a tick of unbleached cotton and fill it with straw. Take a well-worn quilt or old comfortable and fold it the right size for a mattress, and cover it with bright colored cretonne. Tack a curtain of the same around the frame. Add one or two cushions, and the lounge is ready for every-day service.

DRESS THE CHILDREN WARMER.

Out here in California the people do not pay heed enough to the dress of their children. They seem to think that because it is sunny California little folk do not need attention to their feet or dress. The fact is, children need warm shoes and stockings, flannels and warm clothes just as much in this climate as they do in the East. Not as heavy but light and warm.

THE REAL THING.

The venerable Goldwin Smith believes that, as an encouragement to matrimony, two votes should be allowed each married man.

A group of Canadians in a New York hotel were talking of the learned Prof. Smith affectionately.

"He believes in matrimony," one said. "He loves children. Children in their turn love him. They continually say to him the quaintest, the most interesting things.

"In a neighboring house, one day, he took a little girl on his knee.

"'My dear,' he said, 'where is your wax doll?'

"'Oh,' she answered, 'I don't have nothing to do with wax babies any more. We've got a meat baby here now, and that takes up all my time.'—Exchange.

Let the foundations of thy affections be virtue, then make the building as rich and glorious as thou canst; if the foundation be beauty or wealth, and the building virtue, the foundation is too weak for the building and it will fall; happy is he the palace of whose affection is found upon virtue, walled with riches, glazed with beauty, and roofed with honor.—Quarles.

I recently went to a railroad station to meet some of my wife's relatives and I saw a woman there with a lot of children, baskets, valises and no one to help her, but a girl with nothing to carry but an empty pocketbook and a mouth full of gum had enough escorts to start a town. There is need of equalization along this line.

"Any good shooting on your farm?" asked a sportsman of a farmer.

"Splendid," replied the agriculturist; "there's a canvasser man down in the clover meadow, a peddler at the house, a county board candidate out in the barn, and two tramps down in the stockyard. Climb right up over the fence, young man, load both barrels and sail in."—Credit Lost.

Mrs. DeSweet—I'd go and spend a week with my sister in the country if I thought you could manage the house alone.

DeSweet—Oh, I can manage it all right.

Mrs. DeSweet—But I am afraid you would be lonely and miserable.

DeSweet—Not for a minute.

Mrs. DeSweet—Then I won't go.

What-to-Eat: Mrs. Jenner Lee Ondergo—You discharged your kitchen girl for letting a dish fall to the floor; wasn't that a pretty severe punishment?

Mrs. Seldom-Home—Oh, I didn't mind that dish so much, but it had half a dozen poached eggs in it.

Little Amzi (who has an inquiring mind)—Do you s'spose, Uncle Bill, that a hen knows the difference between a real egg and a wooden one?

Uncle Bill Biderback—Sartin she does, Amzi. Ye never heard of a hen layin' a wooden egg, did ye?—Town Topics.

He calls her "Little Sunshine,"
Not because her flashing eyes
In the splendor of their brightness
Bear the light of sunny skies.

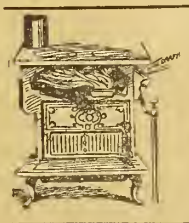
He calls her "Little Sunshine,"
Not because her golden hair
Has the glory of the sunlight
In its masses painted there.

He calls her "Little Sunshine,"
From no likeness to the glim
Save that now and then she makes it
Just a bit too warm for him.
—J. W. Foley in New York Times.

A CAPITAL PLANT FOR HEDGES.

Visitors are always admiring the silvery grey, neat looking hedges, which are to be seen in various parts of California, not guessing, perhaps, that they are made with a native plant, Atriplex Breweri, which grows on our coast, from Point Conception southwards; and is now popularly known as the "Santa Barbara salt bush." Hedges can be made with it from one foot to six feet high, and even more, if properly trained, and their neutral color form the very best back ground for flowering plants of any description. From the location where it naturally grows it is easily understood that this "salt bush" is hardy, and tough, as tough as can be. Moreover, it presents the advantages that it can be grown without any water, at least right on the coast where fogs are frequent during the summer; that it is not affected by parasites of any kind, and that horses and cattle will not touch it. Like other hedge plants it will need clipping quite often during the growing season. Although growing so quickly, it will never die off and leave unsightly gaps, as is often the case with the Monterey Cypress. In every respect it is well worth recommending for this special purpose, and for all places where a grey effect in masses is needed.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)



BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

The BEST IN SILVERWARE

Our stock of Sterling Silver and Plated Ware commands the consideration of the critical buyer. It's completeness in range and variety, newness in styles, fineness in quality and fairness in prices enables one to choose with a degree of satisfaction not possible elsewhere in the Southwest.

OUR NEW ILLUSTRATED FALL AND WINTER CATALOG No. 21 will be sent upon request. We prepay all charges, and ship goods on approval with privilege of examination.

BROCK AND FEAGANS

Silversmiths LOS ANGELES, CAL. Jewelers

Oh! What A Difference

IN THE MORNING

Especially wash day morning when you use a

WHITE LILY WASHER

JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

Union Bank of Savings

RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits

4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.

PROSPECTOR'S EXCURSIONS

from LOS ANGELES to

NIPPENO,	round trip,	$20.00
GOOD SPRINGS	"	20 95
LAS VEGAS	" "	23 60
MOAPA	" "	27.55
CALIENTE	" "	33.45

VIA THE

Salt Lake Route

These tickets will be sold daily, commencing Nov. 1st., with a return limit of 30 days Mining literature gladly furnished free Los Angeles City Office, 250 South Spring St.

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt. T. C. PECK, Asst. G. P. Agt. Los Angeles, Cal.

A Sharp Razor

Makes Shaving Easy

It is a pleasure to shave when your razor is sharp. With "Every Man's Dry Hone" you can give your razor a keen cutting edge with a few strokes. It is a perfect hone, made for home use, and guaranteed to give satisfaction. No water or oil necessary—self-lubricating. Always ready. Mailed on receipt of $1.00. Send in your order now, while you are thinking about it. Be ready for your next shave.

REDLANDS HONE CO. 70 Orange St., Redlands, Cal.

SUCCESS

GASOLINE AND DISTILLATE

ENGINES

STAND EVERY TEST

PRICES—			
2½	Horse Power,		$125 00
4	"	"	185.00
10	"	"	368.00
15	"	"	556.00
20	"	"	731.00
30	"	"	1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON

710 N. Main St. - Los Angeles, Cal

PUMPS!

Jackson's High Efficiency Vertical Shaft Centrifugal Pump

This pump can be submerged and will run equally as well under water as above it. It is also automatically balanced against up or down thrust. Write for Catalogue No. 12.

BYRON JACKSON MACHINE WORKS

411 Market St. San Francisco, Cal.

When writing advertisers mention Cultivator.

Los Angeles Markets.

Los Angeles, November 29, 1905.

Butter remains unchanged while cheese has advanced half a cent. Poultry is in large supply, especially turkeys, and prices are tending downward. Vegetables remain at last week's quotations, while potatoes are easier. Honey has advanced. Trading is active in all lines and supplies in abundance.

Butter.

B. of T. Creamery, per roll	67½
Valley Creamery, fancy	65@67½
Valley Storage	55@57½
Fancy Dairy	50@52½
Cooking	21@22

Cheese.

Cal. 3-lb hand	19½
Cal. Young America	18½
California Anchor	17½
Northern	16
Domestic Swiss	18
Imported do	28

Eggs.

Eggs, Fresh Ranch	45
Eastern and Storage	33@35
Seconds	22

Poultry.

Fryers, 2½ lbs	15@16
Broilers, under 2 lbs, per lb	18@20
Young Roosters, per lb	14
Hens, per lb	14
Ducks, per lb	14
Geese	12
Turkeys	20

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt	5.75
Prime Steers, cwt	3.50
Cows, cwt	2.85
Calves, cwt	4.50
Sheep, ewes, per head	4.00
Lambs, do	3.2o
Wethers, per head	4.50

Potatoes.

Northern, per sack	1.35@1.50
Locals, per cwt	1.00
Sweets, white, per cwt	90@1.00
Sweets, yellow	1.00@1.40

Vegetables.

Onions, Silver Skins, sks	$1.40
Onions, yellow, per cental	1.30
Beets, per 100 lbs	75
Cabbage, per sack	50
Cauliflower, per doz.	30
Bell Peppers	4@5
Wax Beans	5
Cucumbers, per box	1.00
String Beans	5
Green Onions, doz bunches	20@25
Carrots, doz. bunches	30
Turnips, doz. bunches	25@35
Garlic	6@8
Celery, dozen	32½@3o
Peas, per lb	5
Egg Plant	4@4½
Chili Peppers, green	1½@2
Chili Peppers, dry	15@20
Tomatoes, local	37@40
Parsley, per doz. bunches	30
Summer Squash, bx 20 lbs	25@35
Green Corn, per sack	75@1.25
Lima Beans	4½@5
Rhubarb	2½

Citrus Fruits.

Lemons, standard	1.50@2.00
Lemons, fancy	2.25@3.00
Grapefruit	1.75@2.50
Seedless	3.00
Navels	2.50@3.00

Fresh Fruits.

Apples, Bellefleur	85@1.35
Fall Pippins	1@1.25
Apples, 4½-tier Rhode Is. Grn	90@1.10
Apples, Red Pearmain	1.15
Apples, Gravensteins	90@1.10
Strawberries	10@15
Pomegranates, per crate	75@85
Peaches, per box	75@1.25
Plums	90@1.25
Figs, per box	50@75
Black Figs	75@1.00
Muscats	90@1.75
Tokays	1.25@1.35
Cornichons, lb	5@6
Quinces, per box	1.50
Pears, Winter Nellis, per lb	3
Casaba Melons, large crates	2.00@2.50
Watermelons, doz	35@1.75
Guavas, per basket	4@6

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11; fy 8½; ch, 7½.

Peaches, fy, 8½@10½; ch, 7½@8.

Santa Clara Prunes, 30-40, 8c; 40-50, 7c; 50-60, 6c; 60-70, 5½c.

Loose Muscatel Raisins, 2-crown, 4½c; 3-crown, 5c; 4-crown, 6c.

Beans, Dried.

Limas	4.25@4.50
Pinks, fancy	2.50@2.65
Lady Washington	3.00@3.10
Navies	3.50@3.75
Black Eyes	5.50@6.00

Nuts.

Walnuts, No. 1 soft shell	14½
Do, No. 2	8@10
Do, No. 1 hard shells	12
Do, No. 2 hard shells	10
Almonds, paper shell	16@17½
Almonds, soft shell	17@17½
Peanuts, California	6@7½
Peanuts, Eastern	7½@8

Honey

Honey, comb frames	16@16½
White, strained, per lb	7
Amber	12½
Beeswas	27

Hay.

Barley	12@14.50
Alfalfa, local	13@13.50
Alfalfa, Northern	11@12.50
Wheat	13.50@14.50
Tame Oat	11@18.50

Grain.

Purchasing prices f. o. b. L. A. are:

Wheat	$1.40@1.45
Barley	1.10@1.13½
Corn	1.25@1.30

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley	1.15
Bran	$1.30
Feed Corn Meal	1.55
Middlings	1.40
Wheat	$1.65@1.70
Cracked Corn	$1.50
Corn	$1.45
Oil Cake Meal	$2.10
Cocoanut Meal	1.55

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

San Francisco Markets.

San Francisco, Nov. 29, 1905.

Dairy.

Butter met with a snappy sale yesterday, and the market opened displaying a firmer undertone. Prices for all grades of fresh stock were advanced sharply, and available supplies found a ready outlet at the improved figures.

BUTTER—Fresh, California extra, 30c, firm; firsts, 26½c, firm; seconds, 23½c, firm.

Eastern Extras, 24½c, steady; firsts, 23½c, steady; other grades nominal; Ladles, extras, 20c, steady; firsts, 19c steady; other grades nominal.

Storage—California extras, 24½c, steady; firsts, 23c, steady; Eastern extras, 24c, steady; firsts, 23c, steady; Ladies, firsts, 20c firm; firsts, 19½c, steady.

CHEESE—New California, fancy, 14c, steady; firsts, 13½c, steady; seconds, 12@12½c, steady; Young America, fancy, 14c, firm; firsts, 13½c, firm; seconds, 12½c, firm.

Eastern—Cheddars, 15½c, firm; Flats, 16c, firm.

Western — Cheddars, 14c, firm; Twins, 14½c, firm.

Storage—California fancy, 12½c.

Eggs.

Offerings of Eggs were heavier on 'Change and prices for selected Ranch were forced down 6c a dozen from Saturday's closing rates and values for the cheaper sorts were also lower in sympathy. During the last two weeks the high price for selected eggs has curtailed consumption, and in the endeavor to hold up prices there has been more or less accumulation in dealers' hands.

EGGS—Fresh California Ranch, selected, 40c, weak; firsts, 36c, weak; seconds, 32½c, weak; thirds, 30c, weak.

Eastern—Selected, 30c, firm; firsts, 26c, firm; seconds, 22½c, firm.

Storage—California selected, 27c, steady; firsts, 25c, steady; seconds, 24c, steady; California Store, selected, 25c; firsts, 24c. Eastern, selected, 25c, firsts 23@24c.

Poultry.

POULTRY—Old Roosters, per doz, $4.50@5; Young Roosters, $5@6; fryers, $4.50@5; Broilers, $3@4; Hens, small, $4.50@5; large, $5.50@6.50; Live Turkeys, lb, 20@22½c; Dressed Turkeys, 22@25; Ducks, old, $4.50, @5; young, $4.50@6; Geese, per pair, $2@2.25; Goslings, $2.25@2.50; Pigeons, per doz, old, $1@1.25; young Pigeons, $2@2.25.

Fresh Fruits.

DECIDUOUS FRUITS—Apples, per box, extra, $1.50@1.75; fancy, $1@1.35; common to choice, 50@90c.

Pears—Per box, Winter Nellis, $2@2.50; other varieties, $1@1.25.

Table Grapes—Per small box or crate, 75c@1.25; open boxes, $1.25@1.75, as to variety.

Pomegranates—Per box, $1@2.

Persimmons—Per box, 50c@$1.

STRAWBERRIES—Large varieties, per chest, $5@6; Santa Clara, $10.

Citrus Fruits.

CITRUS FRUITS—Per box: Oranges, Navels, $1.25@3; Seedlings, $1@1.50; Lemons, $1.50@4; Limes, $3.50@4; Grape Fruit, $2@3; Tangerines, $1@1.25.

Vegetables.

VEGETABLES—Tomatoes, per box, 50c@$1; Southern 50@85c; Green Peppers, per box, Chili, 65@90c; Bell, 85c@$1.25; Beans, per lb, Green 9@10; do, Wax, 10c; Lima, 8@9c; Garden 1.30.

Peas, per lb, 6@6½c; Cucumbers, per box, $1@1.50; Summer Squash, per box, Southern, 75c@$1.25; Egg Plant, per box, 75c@$1.25; do, Southern, per lb, 5@7c; Garlic, per lb, 5½@6c; Marrowfat and Hubbard Squash, per ton, $15@20.

POTATOES—Per ctl: River Burbanks, 70@90c; Salinas Burbanks, $1 @$1.40; Oregon Burbanks, $1@1.20; Sweet Potatoes, Merced, $1.40@1.50.

Onions—Per sk, Yellow, $1.20@1.35.

Dried Fruits.

Apples—Evaporated, fancy, 9½c; choice, 8½@9c; standard, 7¼c.

Plums—6½@9c, as to variety and quality.

Peaches—Crawford , fancy, 9½c; choice, 8½@9c; standard, 8@8¼c; peeled, 15½@18c; Muirs, fancy, 9½c; choice, 8½@9c; standard, 8¼c.

Apricots—Royal, fancy, 9½@10c; choice, 8½@9c; standard, 8c; Moorpark, fancy, 11@12c; choice, 9@10c.

Silver Prunes—7@9c.

Nectarines—7½@8½c.

Prunes—Sack basis, f. o. b. For boxed goods add ¼@½c: 4-size, 3½ @4c basis; small and large size, 4@ 4½c basis.

Figs—Per lb: White, 10 lb boxes, fancy, 60c; choice, 55c; standard, 50c; layers, 50@65c; bulk, fancy, 4c; choice 3¼c; standard, 2¾c; ungraded, 3½c; Black, 3@3½c.

Pears—Bartlett, unpeeled halves, fancy, 12@12½c; choice, 9@10c; standard, 8c.

RAISINS—Prices per lb, f. o. b. Fresno, are as follows: 1905 crop: Seeded, per pkg: Fancy, 16-oz 8c; do, 12-oz, 6⅝c; choice, 16-oz, 8c; do, 12-oz, 6⅜c; fancy bulk, per lb, 8c; choice, do, 7¾c, Loose Muscatels, 50 lb bxs, standard, 4-crown, 6½c; do, 3-crown, 6c; do, 2-crown, 5¾c; do, seedless, 4½c; do, floated, 4¾c; Thompson's seedless, unbleached, 5½c; bleached, standard, 7c; do, choice, 8c; do, fancy, 9c, do, extra fancy, 10½c; seedless Sultanas, unbleached 4c; bleached, standard, 5½c; do, choice, 6c; do, fancy, 7c.

Honey and Beeswax.

HONEY—New crop, Comb, per lb., 10@12c; Extracted Water White, 6c; Light Amber, 5@5½c; Dark Amber, 3@4c; Hawaiian, 2@2½c.

BEESWAX—Per lb, 26@28c.

Beans and Peas.

BEANS—Prices per ctl: Large White, $2.25@2.60; small do, $3@3.25; Pea, $3.25@3.75; Lima, $3.40@3.50; common shipping points, $3.20; Red, $3@3.50; Pink, $1.75@2.15; Bayos, $3.50@3.75; Blackeyes, $4.40@4.60, Red Kidney, $3.50@4; Horse Beans, $1.25@1.75.

DRIED PEAS—Prices per ctl: Niles, $1.75@2; Green, $1.75@2.25; Field, $1.50@2.

Live Stock.

Conditions throughout all departments of the Live Stock market are purely a reflection of the features thoroughly reviewed for some time past. Sheep continue in scant supply and rule strong at full quotations and A1 Steers and Lambs share second place interest at firmly held rates. Calves and Hogs are plentiful at the familiar prices.

CATTLE—No. 1 Steers, 6½@7; second quality, 5½@6c; third quality, 5@ 5½c; No. 1 Cows and Heifers 5@5¼c; second quality, 4½@5c; third quality, 4c; thin Cows and Heifers, 3@4c; Bulls and Stags, 2@3½c. Prices for all descriptions less 50 per cent shrinkage.

CALVES—Light, per lb, 4¼@4¾c, gross weight; medium, 3¾@4c; heavy, 3½c gross weight.

SHEEP—Per lb: Wethers, No. 1, 4¼@4¾c. gross weight; Ewes, No. 1, 3½@4c, gross weight.

LAMBS—Suckling, $3@3.50 per head or 5@5½c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 80 to 130 lbs 5½@5¾c, 130 to 250 lbs, 5¾@5⅞c; 250 to 350 lbs, 5¼c; rough heavy, 4@4¼c; common, 3½@4c.

Hops.

The price of desirable grades is nominal at 8@12c per lb, according to quality.

Hay and Cereals.

HAY—Per ton: Wheat, $11.50@ 16.50; Wheat and Oats, $11@15.50, Oats, $9@13.50; Barley, $8@11; Clover, $7@10; Alfalfa, $6.50@9.50; Stock, $5@7.

WHEAT, No. 1 Shipping, per ctl, $1.33@1.36½; inferior grades, $1.20@ 1.32½; White Milling, good to choice, $1.40@1.43¾; and $1.45 for fancy.

BARLEY—Choice No. 1 Feed, $1.17½ @1.20; some fancy grades up to $1.21¼; common to fair, $1.15@1.16¾; inferior grades, $1.10@1.13¾; Shipping and Brewing, $1.23¾@1.27½;

OATS—Good to choice White, $1.38½ @1.50; Red, 1.50@1.62½ for choice to fancy; $1.25@1.40 for common to fair; Black, for seed, $1.60@1.75; lower grades, $1.25@1.55.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.32½@ 1.35; small, do, $1.55@1.65; Eastern Yellow, $1.37½@1.40; White, $1.32½; Mixed, $1.35.

RYE—New, $1.45@1.52½.

CITRUS MARKETS

New York.

Twenty-one cars of oranges and thirteen cars of lemons comprised the citrus offerings last week in this market, while for the same period last year only five cars of oranges offered and no lemons, while prices this season are fully as high as last despite the liberal offerings. Floridas are in liberal supply, but too green to sell well.

Tuesday's market brought seven carloads of navels and three of lemons. Oranges poorly colored and market declining. Lemons firm. Prices—Oranges: Navels, ex fy, $2.40 @3.55; ex ch, $2.35@2.95; ch, $2.35@ 2.50. Lemons: Fancy, $2.00@3.60; ex choice, $2.25@3.10; ch, $1.85@2.65.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

INTENSIVE FARMING.

(Continued from First Page.)

man of wealth who has a large tract of land may practice intensive farming to a certain extent, he may not, in the natural course of events, find his soil equally adapted even through the agencies of commercial, common and green fertilizers to the same general products. He is thereby compelled to divide his territory and practice intensive farming just as does the smaller land holder, and with the disadvantage of having many loose ends to hold together.

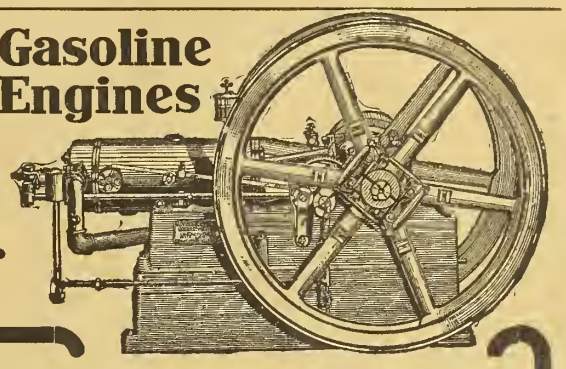
Smaller farms, then, and intensive farming, may be noted as the coming feature of the future for the Pacific Coast and Middle Western States.

Ranchers of the Alberta ranges, northwestern Canada, will have sent nearly 50,000 fat cattle eastward before the season closes. Stock is in much better condition than for years past, owing to abundance of grass.—Country Gentleman.

Waite, Bailey & Lynch, buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, etc. Otto gasoline engines, all sizes, to 200-H. P., better built, more economical, therefore superior to all others; prices and terms that will insure due consideration. 943-945 N. Main st., Los Angeles, Calif.

I. H. C. Gasoline Engines

Best For Irrigation.



WHEN it comes to pumping water for irrigation purposes the "I. H. C." Gasoline Engines will be found the **simplest, safest** and the most **durable and economical.** They can be attached to any kind of pump, in any position, for raising water from deep or shallow wells, reservoirs, canals or running streams. They excel in **full, regular and long sustained power.** They can also be used for a general purpose engine for sawing wood, churning, cream separating, feed grinding, etc. They give the maximum of power at the minimum cost. No expert knowledge or trained engineer necessary to operate them. They are unequaled for power of all kinds. Made in a variety of sizes and in two styles. **Horizontal or Portable 6, 8, 10, 12, 15 Horse Power. Vertical, 2, 3, 5 Horse Power.**

Call on local agent and examine these engines or write nearest general agency for illustrated catalog showing how they will save you money.

WESTERN GENERAL AGENCIES: Denver, Col., Helena, Mont., Portland, Ore., Spokane, Wash., Salt Lake City, Utah, San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, ILL.
(INCORPORATED.)

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY
PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

RUBEROID ROOFING

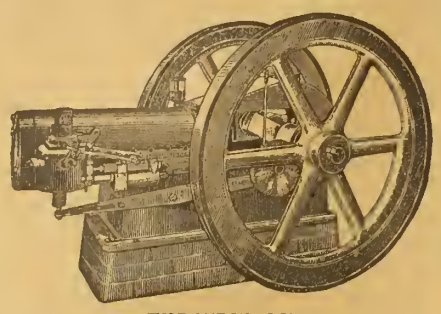
The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

IF PUMP YOU MUST
Why not pump at a profit?
Write A.T.Ames, Galt, Cal. for illustrated Catalogue

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

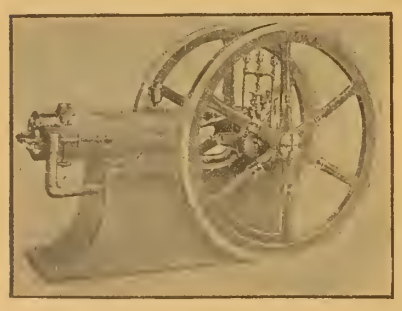
BEST, STRONGEST, SIMPLEST
MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

BUY NOW AND GET SUMMER PRICES
BURNS CHEAPEST FUEL

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

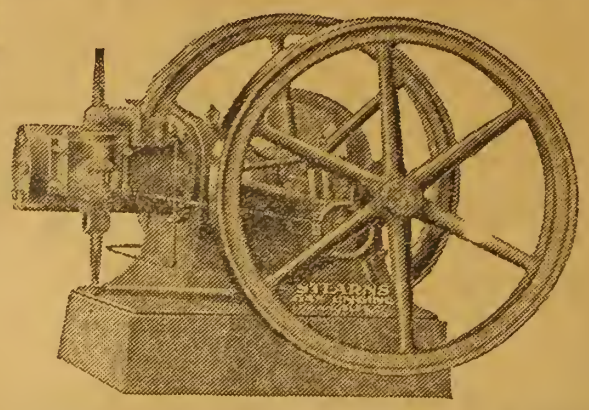
Wm. Gregory
602 North Main St. Los Angeles, Cal.

NO, THIS IS NOT AN ARTESIAN WELL, BUT

AN IRRIGATION PUMPING SYSTEM
SUPPLIED BY
S. J. SMITH MACHINERY CO.
POWER PLANTS, PUMPING MACHINERY AND WATER SUPPLY GOODS
129 No. Los Angeles St., Los Angeles, Cal.

When writing to Advertisers Please mention Cultivator

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

NATIONAL WOOD PIPE CO.

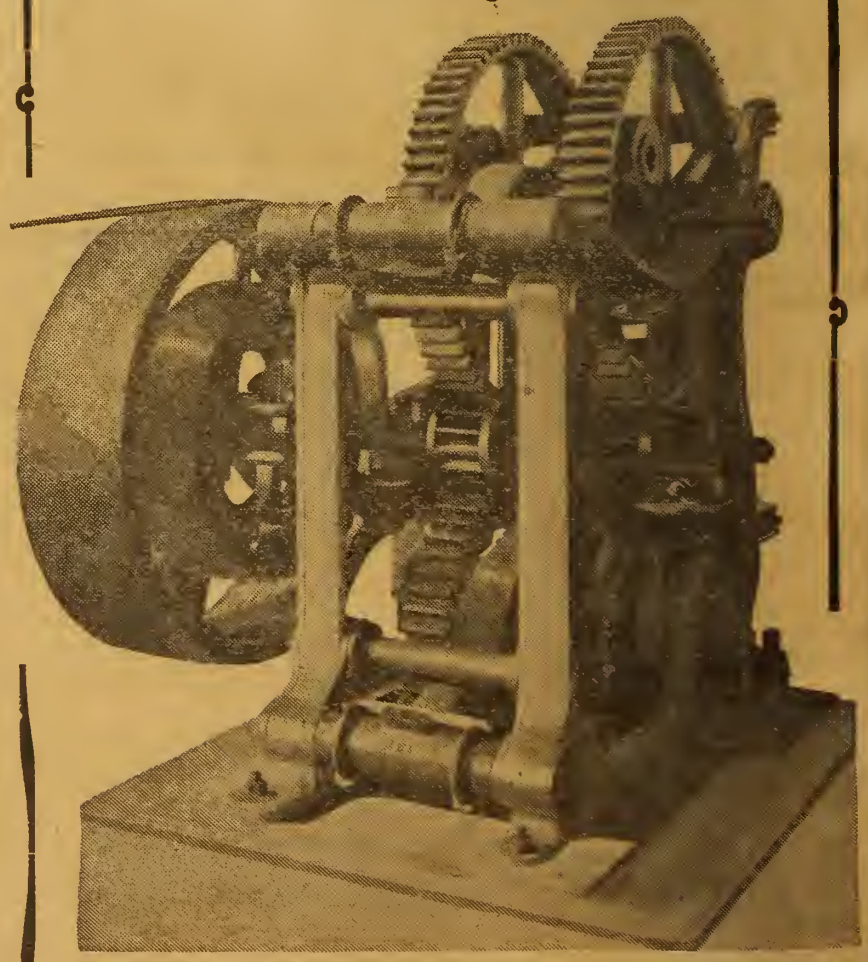
MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR **WOOD PIPE** WOODWARD PATENT MACHINE BANDED PIPE WHEELER PATENT CONTINUOUS STAVE PIPE BORED WOOD WATER PIPE

Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

The Record for the New Pomona Pumps

FOR 1905

Not a Broken Rod, Not a Plunger Pulled for Repairs



The irrigation season just closing has demonstrated fully the high merit and efficiency of the New Pomona Pumps.

Every one installed has passed through the season's run without breaking a rod or requiring the valves to be pulled for repairs, proving conclusively that the ideal beam motion used by these pumps is more than has been claimed for it.

The slow, uniform motion upward and the quick, smooth down motion handles the rods without any jerk or jar, while the long lap of the plungers in passing the dead points, keeps the water column in continuous motion upward and a steady stream flowing from the discharge pipe.

They have passed through the experimental period and are built better than ever for next year.

The ideal pump for irrigation purposes. Send for catalog.

Pomona Manufacturing Co., Builders, Pomona, Cal.

15 D'05
630.5

The Los Angeles Office of the Cultivator Has Been Moved to 115 No. Broadway (upstairs)

California Cultivator

LOS ANGELES SAN FRANCISCO

DECEMBER 8, 1905

BARRED PLYMOUTH ROCKS

This popular breed of fowls had its origin in Massachusets more than forty years ago.

The Barred Plymouth Rocks combine largely the qualities of the Dominique cock and the Black Java hen, from which they sprung as a cross. They are fine egg producers and excellent for the table, as their flesh is tender and rich in flavor. Early maturers, they produce eggs correspondingly soon, while as mothers they are kind and gentle.

The laying capacity is considerably above the average of fowls. The pullets make excellent winter layers, the hens are at their best at eighteen months to two years, beyond which date they decline rapidly in laying ability, become persistent sitters and often very fat.

The other varieties of the Plymouth Rocks are the Buff and the White. In a general way, what has been said of the Barred, will apply to the newer varieties.

CIRCULATION EXCEEDING 10,600

Coulson's No. 3 Condition Powders

Keeps Fowls Healthy. Keeps the Hens Working. Changes Feed into Eggs.
You Exchange the Eggs for

$ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $

INSTRUCTIONS

When you mix up the mash feed for the poultry, just stir in a handful of Coulson's No. 3, and soon all the hens will be singing, for it makes the feed taste good to them, it cleanses the liver, it makes the blood circulate, it reddens the combs, it strengthens the digestive organs and it INCREASES THE EGG PRODUCTION, for it goes right to the spot.

Egg Machines==Keep Them Working

You have chickens. Did you ever consider them as machines—machines that make eggs? Did you see in a recent Sunday paper where hens were made to lay SEVEN TIMES THEIR OWN WEIGHT in eggs in a year?

Now, every poultryman knows, or should know, the importance of having the fowls in good condition and in good working order. Hens that are protected in this way lay the most eggs during the winter months, besides they will lay eggs that will hatch STRONGER and HEALTHIERCHICKENS, therefore, it means future PROFITS and PROSPERITY. Your fowls should certainly be well fed and cared for during the Fall and Winter season, for every one wants eggs when eggs are high.

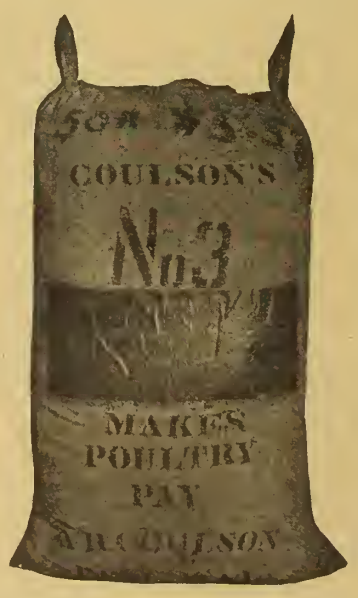
In the morning when you are mixing up the mash for the laying hens, just put in a handful or so of COULSON'S NO. 3 POULTRY POWDER, and see how lively it will make the hens, how their combs will brighten up, and how they will cackle. And Eggs! Why, a few days after you will be finding eggs all over the place—for COULSON'S NO. 3 POULTRY POWDER touches the spot and starts the magic flow.

Send for a small free sample of Coulson's No. 3 Condition Powder and also a circular telling you more about it. This COULSON'S NO. 3 CONDITION POWDER is prepared after our own PRIVATE FORMULA from especially selected ingredients, carefully and properly compounded, and the result is this powder is a GREAT HELP to the poultry.

"An ounce of prevention is worth a pound of cure," and a little of this No. 3 Condition Powder in the feed may save you many hens, and give you many more eggs. THE HENS NEED A TONIC to strengthen them. ONE CENT'S WORTH will do for twenty hens; one cupful, 5cWORTH, for one hundred laying hens. Get a package of this Coulson's No. 3 Powder; it will surely pay for itself.

The price is 15c per pound, but as a SPECIAL INDUCEMENT, and in order to convince you of its merits, we will send you 10 POUNDS FOR $1.50, EXPRESS PREPAID to your Station, or 25 pounds for $3.25. TRY IT; why not?

BEFORE



AFTER

COULSON POULTRY AND STOCKFOOD CO., PETALUMA, CAL.

Enclosed find P. O. Money Order for $1.50 for 10 pounds of Coulson's No. 3 Condition Powder, to be sent express prepaid, as you offer.

NAME ....

CITY OR TOWN ....

A 50-pound sack of Coulson's No. 3 Condition Powders sent to your station, express prepaid, for $6.00.
Coulson's No. 3 Condition Powders Is prepared after the private formula of A. R. Coulson, the chicken doctor.
It goes right to the spot and starts the magic flow.

White Leghorn Eggs for hatching. Chicks hatched by scientific process. Chicks being well born are half raised.

White Leghorn Chicks for sale, just from the incubator. Chicks furnished in any quantity. Write for prices, stating quantity wanted.

Manufactured by

COULSON POULTRY AND STOCK FOOD COMPANY

730, 732, 734 Main St., Petaluma, California

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 23 LOS ANGELES, CAL., FRIDAY, DECEMBER 8, 1905 Subscription $1 a Year

State Poultry Exhibition at San Francisco

The old, forsaken postoffice was used for a fowl purpose last week. But it was the aristocracy of fowldom so it was permitted—even encouraged and enjoyed. The highest "roosters" were the Guinea hens which escaped during the first night and hied themselves among the large timbers near the roof. Occosionally they gave their shill warning and the whole show was an awful uproar from the roosters and hens taking up the alarm.

Excuse me, I didn't mean to say "roosters" for that proclaims me as unfamiliar with the breeders vernacular. I believe the only proper expression when referring to the male bird is cockerel or cock. So you see I'm not thoroughly "up" on poultry, however, this show looked good to me. I have seen bigger, but there were fine birds here.

There were said to be nearly 100 exhibitors with about 1,200 to 1,400 birds—not including pigeons of which there were about 800. The class with the largest number was the S. C. W. Leghorns, with 161 birds. Buff Orpingtons came second with 93; Barred Rocks third with 88; Light Brahmas fourth, with 80; White Wyandottes, 66; S. C. Brown Leghorns, 65; S. C. R. I. Reds, 56; White Rocks, 48; Buff Leghorns, 45; Black and White Minorcas tied with each showing 35, and so on down the Lakenvelders, of which there were three.

By the way, speaking of Lakenvelders, they were an awful disappointment to me. We had read much of their extreme beauty of feather—the glistening white body with interesting black tail and hackle or collar, the trim little body, etc. Well, their tails are not black, nor are their bodies white. The hens looks much like diminutive Light Brahmas, while the cocks approach a little closer to the "shadow on a sheet" appearance, yet there is no solid black in tail nor hackle, neither is there a solid white. They are small, hardly as large as the smaller strains of Leghorns and—well, they didn't suit me a little bit.

Regarding the other varieties, there were some fine specimens. I asked one of the judges, T. E. Orr of Beaver, Pa., who is secretary of the American Poultry Association, and was superintendent of poultry at St. Louis World's Fair, and withal a most genial gentleman by the way, and he told me that there were many fine birds here which would do credit to Madison Square Garden, or any other of the largest of poultry exhibitions. Especially did he comment on the high grade of White Wyandottes and Orpingtons, which classes he judged. One Buff Orpington cock he particularly referred to as the superior of any he had ever seen.

Geo. D. Holden, of Owatonna, Minn., and president of the American Poultry Association, was also unqualified in his praise of the quality of Pacific Coast poultry and of fine specimens on exhibition.

Geo. H. Burgott of Lawton Station, N. Y., called the world's greatest Leghorn judge, is another Eastern judge who came to give the coast the benefit of his experience. The only coast judge at work is Henry Berrar of San Jose, who also judged at St. Louis.

Speaking of the judges it may be perfectly in order to refer to one admirable feature. The call was for all exhibits to be placed on Friday and thus give time for all awards to be made and ribbons placed before the doors opened Monday morning, the 27th. That was not quite accomplished, but, by Tuesday morning practically all work was done and each exhibitor had the pleasure and profit, of all the rest of the week's work with his ribbons on his coops. This will be a strong card and was highly commended.

The water fowl exhibit was fair. Turkeys were not in it. Apparently all stayed at home to enjoy Thanksgiving, at least only ten braved the dangers of the week and came out.

Bantams made fair showing and a number of Peacock showed more gorgeous colors than their premium ribbons.

The stock or poultry supply and feed houses were not so largely represented as usual, but some fine displays were made.

The Petaluma Incubator Co. had a large exhibit of supplies and many incubators and brooders. Some incubators were filled and hatching which always draws an interested crowd.

Charles H. Lilly & Co. who are selling the Must Hatch had a large exhibit of machines with brooders filled with chicks.

The Jubilee Incubator Co. hatched some chicks and incidentally showed the merits of the Jubilee, some fine ones of which were shown, made at the big new factory at Sunnyside.

Geo. H. Croley, the pioneer supply man of San Francisco, had an exhibit in charge of Mr. Emerson. Foods and supplies largely. Mr. Prior of the Sturtevant Egg-Food Co., also in connection with Mr. Croley's display, had a line of goods.

The Cypress Incubator Co. and the Queen Incubator Co. also made exhibits which attracted many. C. B. M.

Scene at Petaluma, the White Leghorn City.

WOMEN AS SQUAB RAISERS.

There seems to be a great desire by women who read articles on squab raising to give the business a try. At least twenty-five per cent of all the letters we receive are from people who read squab matter and ask for more information and are women. If we were asked the question, says the Poultry Herald, "Could a woman manage a squab plant or not?" we would answer in the affirmative, for the real work of managing the business is not harder than the general house work and not so hard as it would be to run a poultry farm, and after glancing over the program of the routine work one could see why this is so.

Again if asked whether it would pay or not we could not answer the question as easily, for where it would pay one woman a handsome profit under favorable circumstances another who was not so favorably situated might fail to make the business a success. Much would depend on the disposition of the woman, for the returns from a squab plant are liable to come very slowly at first.

It would be advisable for most women to find out where they are to market their squabs and the probable express charges per dozen. One of the greatest drawbacks to a person just starting in this business would be the inability to furnish enough for each shipment. It would require one hundred pair of breeders to ship regularly one dozen per week, especially where the best are reserved to increase the flock, and up to that time the progress would be slow and perhaps discouraging to those unacquainted with the business and not knowing just what to expect.

It might be said that unless a person had sufficient room to accommodate from three hundred to five hundred pairs of breeders the business would hardly pay unless a local market be secured where squabs could be sold in any quantity from a pair up without being obliged to pay express charges.

A good pair of flying homers that will weigh two pounds per pair will cost from $2.00 to $3.00 per pair and no doubt the first two pair could be purchased for $5.00, but the breeders will never begrudge the money thus invested, for it must be remembered that the first birds purchased are to produce young to form the foundation for the future stock and the old saying, "Like begets like," is very true with pigeons.

Although the pigeons should be fed and watered regularly morning and afternoon, such a beginning as mentioned would require but very little time from the attendant for the first year. During this time any woman could easily judge whether she wished to continue in the business or give it up at the end of the year.

The work of ten pens would be the same as that of one only on the larger scale. The routine work in conducting a squab farm would be,

(Continued on Page 550)

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

Room 416, Hearst Building, San Francisco, Cal
115½ North Broadway (upstairs), Los Angeles

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line, $1 12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1½ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to 10	Lines	15	cents per line
11 " 50	"	14	" " "
51 " 100	"	13	" " "
101 " 500	"	12	" " "
501 " 1000	"	11	" " "
1001 " 1500	"	10	" " "
1501 " 2000	"	09	" " "

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 8, 1905

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

FARMERS' INSTITUTES.

Conductor J. B. Neff has arranged the following farmers' institutes for the month of December:

Brawley, December 11.
Holtville, December 12.
Imperial, December 13.
Calexico, December 15.
Compton, December 18-19.

Other institutes will be announced later.

CURRENT COMMENTS.

This is the month when our farmers' clubs should go into active operation. Get busy from this on, and make the next five months both interesting and instructive.

* * *

The farmers' club of Tropico will find a most beneficial helper in horticultural work and education in Prof. H. W. Myers, who has come to that growing locality from Nebraska, where for many years he was a valued educator.

* * *

Defense of Luther Burbank.—The Country Gentleman, in a recent issue, contained an editorial on Luther Burbank which is a criticism of the great specialist in that the claims put forward in his behalf are not bourne out by actual analysis and development. The San Francisco Chronicle is prompted to reply to this attack which it does in this stormy and fairly stated article which we quote in part herewith:

"The indiscriminate glorification of Luther Burbank, and the attributing to him of all manner of weird performances with plants, is said to be a source of great mortification to one of the most modest and painstaking scientists in the world. He has become a popular craze, and the state of mind which has taken possesion of a great many people in respect to Mr. Burbank has been called 'Burbankitis.' We are accustomed to think of the word 'creation' as meaning formed out of nothing. Certainly Mr. Burbank has done nothing of that kind. The use of the word, however, to indicate new forms or new characteristics by the intelligent employment of causes leading thereto is legitimate enough in a literary sense, but owing to the general popular conception of the meaning its use causes a rather unpleasant feeling in thoughtful men as savoring of the advertising methods of the charlatan, which Mr. Burbank most emphatically is not. What Mr. Burbank is, is a practical botanist and horticulturist of most remarkable skill, enthusiasm, judgment, persistence—and withal, modesty. His 'genius' satisfies the old definition of the art of taking infinite pains. By the exercise of these qualities for many years in the application of well known botanical principles and methods he has produced remarkable change of form in many plants. The commercial value of his work, aside from the pleasure given by his new flowers, is very uncertain.

* * *

"Mr. Burbank is to be respected as a worker in pure sicence, and not merely as the 'creator' of something which he sells, and it is a shame to picture him as the faker which the 'popular' writers would make him out to be. This defense of Mr. Burbank is prompted by the apearance of a book by W. S. Harwood, who seems to be an imable gentleman who knows nothing about his subject but has swallowed whole whatever he has heard and reproduces it amplified by a rather vivid imagination. The harm that such things do is the comment which they call out from discriminating men and journals of which the following are examples."

* * *

Football Tragedies.—It is high time the presidents of the State universities had a conference to make some rules to govern football playing in the future. The season which closed on Saturday recounts death from accidents double what it has been for a period covering five years. The record of injuries many of them of a permanent character, runs up to almost 300, a record certainly which calls for radical modification.

President Roosevelt has taken a hand in the game to the extent of urging upon college presidents the importance of making a compact to create a set of rules governing football playing or of preemptorily ordering its abandonment.. In Europe, where it is played under regulation, strictly, where 80,000 people witness a single game, no such disasters occur as are met in this country because the rules govern the players ahsolutely.

In the United States football is as brutal, and often fraught with as much fatality, as a Mexican hull fight. There is as much barbarism in one as in the other. The time has come to call a halt. If the presidents of the State universities cannot control the game, State Legislatures ought to.

A Needed Reform In Our High Schools.—A. Ross Hill, Dean of the Missouri Teachers' College, in an address recently delivered, says:

"Too often, I fear, the farmer boy who is fortunate enough to get into a high school, is likely to find that the subjects taught have little relation to his interests and needs, unless he has decided to abandon the farm and prepare himself for some profession like law or medicine. In fact, four years spent in a high school as courses are usually arranged may wean the boy away from the farm even if at the outset he entered simply with the view of increasing his intelligence and preparing himself in a general way for any sort of life work. This defect in present courses of study in the high schools can best be remedied by the introduction of courses in agriculture, horticulture and manual training, and by making them solid courses in the hands of a teacher who, in addition to good general scholarship, possesses a sound knowledge of the science of agriculture, or is himself proficient in the use of tools. Such courses could include the study of soils, of plant growth, horticulture, climatology and like subjects. These courses, besides containing much of general scientific value, would naturally lead pupils to an interest in related subjects that are alreay recognized in most high schools such as botany, chemistry and physical geography. Better general scholarship could thus be secured, while the boy would retain his interest in and sympathy with farm life. It is high time for us to put some reason and common sense into our courses of study, both in the grades and in the high school, instead of unconsciously and blindly following tradition, for some of the work now done has no other justification." This is the idea the Cultivator has been promulgating for the past three years.

* * *

The Isle of Pines Contention.—There are about two hundred former residents of California in the Isle of Pines. They are just now, in common with all other Americans strenuously insisting that the United States should take control of the islands. But Secretary Root denies the right of this government to interfere with Cuba in the management of the affairs of the Isle of Pines, and the "revolutionists" as the Americans are called are preparing to state their case to congress. There is a nice question to be determined in this contention. The Isle of Pines may or may not be included in the "other islands" which were ceded to the United States along with Porto Rico. The Platt amendment provided that the question whether the Isle of Pines belonged to Cuba or the United States should be left to future adjudication. Some Americans, taking the ground that the United States never gives up any territory it gets its hands on, went in and setled there in the full confidence that it would be annexed, but finding progress rather slow are now trying to help it along by kicking up a row. There are a number of former Iowans among the 1,400 Americans now in the Isle of Pines and they seem to be leaders in the attempt to set up a government of their own and repudiate the control of Cuba.

The "forty-four forty or fight" spirit has been a strong one in the United States heretofore. Land hunger has had its way willy nilly. When there has been any question of extending American territory and unfurling the flag in new possessions the American people have always been in the affirmative. Will it be any different now? It is said that the administration regards Cuba as entitled to possession pending the settlement of title and will do nothing to protect the American insurgents or keep them from being put down.

The Americans in the Isle of Pines all think they are on American soil. They went there with that understanding. It seems to be one of the "other islands" going with Porto Rico. In view of these facts and the well established temper of the people of this country in such matters, it would be well for Cuba to go slow and be especially careful in regard to shedding American blood. In that event even the magnanimous administration at Washington might be as little able to control the people as McKinley was to stave off the war with Spain after the Maine went down.

* * *

Clear Cut Message.—There has been no disappointment in the president's message to congress. It is clean cut and forceful. He reiterates his views on control of corporations, especially those which relate to railroads. He comes out clearly for "a square deal" for all interests, the producer, the carrier and the consumer. The matter is now distinctly up to congress and that body must henceforth assume the responsibility with the people. His declaration on the subject of class spirit, as it affects labor and capital, deserve careful consideration. His announcement that this government is not and never shall be government by a plutocracy. This government is not and never shall be government by a mob," was received with hearty applause by both houses of congress and will appeal to the country as the only doctrine on which can securely rest the foundation stones of this republic.

* * *

Farmers' Institutes.—We want to impress upon the farmers of the country the importance of attending the institutes which begin in Southern California this month. They are schools of instruction. Professors from the University will be on hand to deliver addresses, as well as specialists along civic and other lines.

Much real good can be derived from these institutes, a great deal of valuable instruction can be obtained. Take notebooks and write down, for future reference, the data furnished in the lectures. Besides the schooling which will be received a great deal of pleasure may be obtained in the social part of the meetings. Be sure to attend the institutes and bring the wife along.

We will be pleased to receive and publish notices of coming institutes in all parts of the state if the secretaries of same will kindly send them in. We would also appreciate receiving copies of papers read at such gatherings with a view to publishing them in whole or part when such papers treat of any subject in the broad field of agriculture.

* * *

The Congress.—The Fifty-ninth congress is in sesion at Washington. It will be one of the most eventful sessions of recent years, unless all signs go for nought. The control of railroad traffic is the paramount issue, closely followed by propositions to control life insurance companies by federal statutes. It looks as if all tariff legislation will be sidetracked.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The fruit growers of California have been in sesison at Santa Rosa this week.

It is estimated that on the Hemet tract this year the crop of olives will reach nearly 200 tons.

Lawrence Wilson of Windsor will set out 160 acres of grape vines in Napa county this spring.

The first carload of Olives was shipped last week from Elsinore by J. R. White. They brought $65 per ton.

The Cloverdale Citrus Fair association is arranging for its annual fair in February, so says the Healdsburg Enterprise.

The Upland grape growers report a most profitable season. The output of table grapes for the season was over 40,000 tons.

The first car load of this season's crop of picked olives went East this week from the Bloomington section of the valley.—Citrograph.

R. H. Gilman of Anaheim has sold 10 1-2 cars of late Valencia oranges for $14,000. He expects to realize $20,000 for the season's crop.

Tomato growers at Fullerton are highly pleased at the outlook for their crop. The output is selling for $100 net a ton, in the Eastern market.

The Wetmore Brothers, near Stuart's Point, harvested this season 10,000 boxes of apples. Sonoma county is a wonderful apple growing section.

Prof. Ingham of the State university, is investigating pear blight in Tehama county. He ought to continue his investigations south of the Tehachapi.

Our Pajaro exchanges note that the prospect for apples in the Pajara valley is as good as it was last year. Thirty-five hundred car loads is the estimate at this time.

The Cultivator is in receipt of a specimen of seedless apples, resembling the Bellefleur, from Lemon Grove, San Diego county. The fruit is excellent in flavor.

The Vacaville Reporter chronicles the fact that grape buyers were wonderfully active this fall. Not half enough grapes were raised in the State to meet the demand.

Arthur Brooks of Highland, has sold his orange crop on eight acres, on the trees, for $2,500. This will net him, after all expenses have been paid 30 per cent. of the purchase price of the ranch.

The orange packing house of F. Schwan & Son, at Pomona, has been destroyed by fire, theb laze originating from a gasoline stove. The loss is estimated at about $5,000, with little insurance.

The Tulare Register boasts that "Tulare county has shipped 437 cars, so far of this year's crop of oranges," and adds "that is pretty near as many as all North California will ship during the entire season."

The California Promotion committee figures that California will ship more than 20,000,000 gallons of wine and brandy this year. That State produces, according to the committee's statement, 70 per cent. of all the grape wine.

The last of the walnuts of the Santa Ana Valley Walnut Growers' Association are being received at the local packing-house. Shipments for this year will aggregate forty cars, one-third less than for last year.

Prof. M. B. Waite, Orchard Pathologist of the United States Department of Agriculture, is in California again co-operating with Prof. R. E. Smith of the University Experiment Station in the war against the pear blight. At the Fruit Growers' Convention at Santa Rosa this week, both these experts will speak and will give their latest conclusions.

The Chino Champion says it is estimated that the olive crop at Moreno will be 100 tons, at Lakeview 50 tons, at Perris 50 tons, and at Elsinore 200 tons. These olives vary in price from $8 to $80, depending upon the size or quality of the olive and the conditions of the contract, as to whether picked and delivered or sold on the trees.

The Pomona Times says: "Thanksgiving" oranges have gone forward to the extent of many car loads. If we were required to eat any of such oranges, we don't think we could be thankful for a few weeks; but our Eastern customers demand them and pay tempting prices for them. Most Eastern customers now know that the early shipments of oranges are not ripe and lack the delicious flavor of oranges that are not picked till late in December or even late in January.

Valentine Peyton, owner of the 170-acre Evergreen ranch at Lordsburg, has commenced the erection of an independent packing house 60x100 feet. It is to be supplied with expensive machinery and will be one of the best packing houses in Southern California owned by one person.

I. Ford of Redlands has received a diploma for the exhibit of apples which he sent to the exposition and a letter saying that the medal would be forthcoming in a few days. The apples were grown on Mr. Ford's Oak Glen ranch and consisted of the Roman Beauty, Ben Davis, Winesap, Apple of Commerce and several other varieties.

AGRICULTURE.

The Orange Post reports the celery industry as very active at this time.

Santa Clara grain growers are putting in a larger acreage of small grain than in former years.

The Citrograph reports the temperature as two degrees below zero at Fredalba, 15 miles from Redlands.

The Agricultural Experiment station on the Chino ranch, has been finally closed as a station. It was established in 1890.

The Analy Standard has computed that 196 days passed this year when no rain fell. And yet all crops planted matured perfectly.

A. R. Sprague, a fruit shipper of Sacramento, has sued the Lindsay Gazette, so the Porterville Enterprise says, for criminal libel.

C. H. Roberts of Pasadena is making arrangements for planting 240 acres of tomatoes on the San Joaquin ranch the coming season.

Snow at Colton is so deep that the mountains and foothill roads are closed. From four to six feet of snow covers the country.

The Ventura Republican says: So scarce is wood becoming in the county that consumers are hauling it 15 and 20 miles and glad to get it at that.

Secretary Montgomery of the Los Nietos and Ranchito Walnut Growers' association, estimates that the output of walnuts will be 150 cars this season. Authority for this statement is the Whittier News.

The Anaheim Gazette reports the Los Alamitos sugar factory as having closed for the season. The output of three months and eighteen days' run was 122,000 bags of sugar of 100 pounds each.

Forty-seven thousand tons of beets were sliced. The number of men engaged was 190, working in two shifts. The total amount of money disbursed for labor, beets and material was $275,000. The season was one of the most successful in the history of the factory.

The Imperial Press says: "The government estimates forty acres of Arizona black ash trees to be worth $100,000 at ten years of age and that it is the most useful for all around purposes of any tree that can be planted in this desert."

Farmers' Institutes will be held during the month of December at the following places and dates: Thermal, Dec. 11; Brawley, Dec. 12; Holtville, Dec. 13; Imperial, Dec. 14; Calexico, Dec. 15; Compton, Dec. 18-19. At these Institutes professors from the University of California will deliver addresses on various subjects.

The Orange Post says: From five to seven 600-pound bales of chile peppers are being shipped out over the Southern Pacific daily to the Los Angeles and San Francisco markets and two carloads were also shipped over the Santa Fe the past few days. Growers report an active demand for the entire output, only a small part of which has been moved and they estimate that by February 1 the market selling price will be between 15 and 20 cents per pound.

It seems that a Sacramento firm or corporation went into the business of raising contaloupes in the Lindsay country quite extensively, and induced many of the resident farmers to do the same thing. Considerable feeling was aroused during the shipping season regarding returns from consignments, some of the ranchers claiming they were not given proper returns for their shipments. A. R. Sprague of Sacramento was the consignee of the greater part of these shipments.

LIVE STOCK.

William Pierson of Lindsay lost a fine barn and a team of valuable horses last week by fire.

A very serious outbreak of glanders has occurred aroung Kingman, Arizona. About thirty horses have been killed in that locality.

As Kingman is close to the State line, precautions have been taken to prevent the introduction of the disease into California.

Cattle and sheep in Mendocino county are looking better than at any time for years, despite the fact of no rain for over 100 days, until last week.

According to the Santa Maria Times a mutton famine exists in that locality, and the Times is yelling at the top of its voice, "Mutton, mutton, who's got our mutton?"

The Escondido Times says: J. H. Breedlove, Valley Center's largest individual rancher, will farm it on an extensive scale this fall and winter. Fine blooded stock will be extensively raised.

The cattlemen of Santa Cruz, San Benito, San Luis Obispo and Monterey counties have issued a call for a meeting for the purpose of organizing a State association, said meeting to be held in Salinas City on Thursday, December 21, 1905.

In the stock business, says the State Journal, "Nevada is coming to the front, not step by step, but by leaps and bounds, and the next few years will witness a growth and development, which, comparatively speaking, will be unequalled in the history of the country."

Fire last week on the Nicholl's ranch, on the Benicia road, several miles from Vallejo, destroyed the residence, two barns and a large amount of hay, entailing a loss of at least $5,000, which will be serious, for considerable stock is raised and kept on this ranch.

"The sheep-raising industry in Oregon is increasing with wonderful rapidity and wool is bringing high prices, giving the sheep owners big profits. Prices have doubled in the last twenty years, while the production of wool in Oregon is increasing at least 20 per cent. annually.

The board of supervisors of San Bernardino county has just passed an order for the preservation of the health of live stock in the county of San Bernardino, the eradication of infections or contagious diseases and the inspection of creameries, making it unlawful for any person to drive or move into or through the county any cattle unless accompanied by a certificate from a licensed veterinarian showing them to be free from glanders, farcy anthrax, Texas fever, verminous bronchitis, hog cholera, swine plague, scabbies, mange, or Texas fever tick.

MISCELLANEOUS.

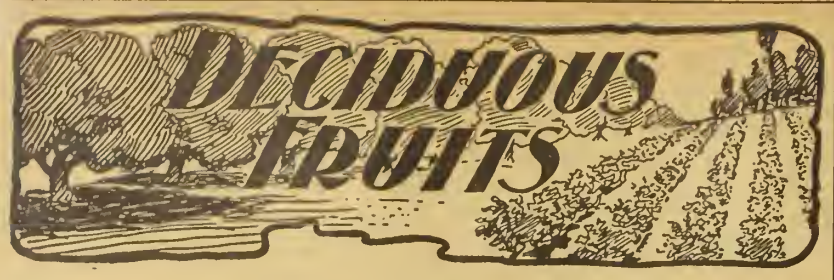
The Pajorian says: The State Board of Horticulture has sent to the Watsonville Board of Trade a sample of the dreaded farm pest, the Russian thistle. As a rapid propagator this noxious weed easily takes the lead of all others and once established in any locality it is almost impossible to eradicate it.

WAIT A LITTLE LONGER.

For announcement of biggest cattle sale to be held in Southern California at De Lamo, (2 miles south of Compton) December 19th. 330 head of of cows and horses.—Briggs & Weber, Auctioneers.

LINERS

FRUIT GROWERS, ATTENTION.—USE Griffith's Smudge Fuel. Don't let your fruit freeze when you can be protected by using Griffith's Smudge Fuel. Stoves, 50c each; 20 stoves per acre, stove good for ten years. Fuel $8 per ton; 16 lbs. to the stove lasts four hours. Address 1023 So. Broadway, Los Angeles.



BY J. W. MILLS, POMONA, CAL.

MIXING FERTILIZERS.

The home mixing of fertilizers has been strongly recommended by all of the experiment stations for a number of years. The impression has gained credence that there is a chemical change which takes place after the simple ingredients have been mixed, that is essential to good fertilizers. It is also understood by the majority of farmers that the fertilizer agent knows best what is the proper thing for his particular piece of land. As a general thing, the best agents understand the principles of fertilization better than the average farmer, because they make a study of the subject it being their business, while the farmer knows or should know best, what his land require. There is a great incentive for manufacturers to recommend ready-mixed goods as the cost of mixing is greatly exceeded by the advanced price on the simple materials. There is also a claim by the manufacturers that when the mixed material is allowed to remain in a pile for a length of time it becomes "mellow" and is much more available, the acid added permeating the whole mass and acting upon the nitrates, potash and phosphates, bringing about this greater availability. All it can do is to make sulphates at the most and these can be more cheaply bought as "originals." A most thorough investigation has been made among the orange growers of Southern California and it was impossible to locate a single instance where data, such as cost of fertilizers, quality of fruit and weights from plots under different treatments would throw any light on the subject. Without such data not even approximate results can be estimated. On the other hand, after the experiment station in Pennsylvania has experimented for twelve years with phosphates both acidulated and unacidulated, it showed conclusively that untreated bone and even raw phosphate rock gave the best results as far as phosphates were concerned, but only where there was plenty of humus-forming material in the soil. This would go to show that phosphate from such sources would not be desirable for Southern California as a rule as our soils are mostly deficient in humus. However, should the orange growers continue to grow green crops as industriously as they are doing this year, there may be a possibility that such forms of phosphate as raw bone and raw rock will give the best results here also.

While the stations have recommended the home mixing of fertilizers they have not always given general principles to be observed. We give them here for the benefit of those interested.

Superphosphate should never be mixed with Thomas slag, lime, Thomas slag with ammonium sulphate or barnyard manure, nor lime with ammonium sulphate or barnyard manure.

Those that may be mixed but must be used immediately are as follows: Lime nor Thomas phosphate, with Kainit, sodium nitrate or potash salts.

Those which may be mixed and left indefinitely before using are as follows: Superphosphate with barnyard manure or guano, Kainit, nitrate of soda, potash salts or ammonium sulphate, lime with Thomas slag, ammonium sulphate with barnyard manure or guano, Kainit, nitrate of soda, or potash salts, barnyard manure or guano with potash salts and Kainit, potash salts with Kainit, and nitrate of soda with potash salts or Kainit.

A few of the reasons why certain mixtures should be avoided are as follows: Nitrate of soda when mixed with barnyard manure loses its nitrogen as nitrogen gas when fermentation of the manure takes place. The same thing happens when lime and stable manure are mixed. When superphosphate is mixed with lime or Thomas slag, the phosphoric acid becomes less available. Potash salts and slag are liable to harden and form lumps which make them hard to distribute.

NITRATE OF SODA FOR FRUIT TREES.

An illustrated German bulletin gives an account of the increased yield of cherries and apples secured when nitrate of soda was used as a fertilizer.

Illustrations are given which show graphically the difference in yield when this fertilizer was employed and when it was omitted. The author has applied as much as 50 pounds per acre without injurious results. Injury to fruit trees through overfertilizing with nitrate of soda first shows itself in the youngest shoots, which turn brown, wrinkle up, and look as though they were burned.

As a result of ten years' experience in the use of this fertilizer in connection with potash and phosphoric acid fertilizers the author holds that not only is the nitrate beneficial and profitable, but for those who would secure the greatest returns it is indispensable.

OLIVES.

Ripe California canned olives are growing more and more in favor. There is no danger of their spoiling like olives in kegs or barrels. The grocer and consumer are both satisfied with their purchases and the increased demand for high-grade goods is sufficient indication of what the future has in store for this article. Many of the leading pickling concerns have learned how to put up green olives so that they will keep for a period of two years or even longer, so that one of the great obstacles in the path of the olive pickling business has been removed.

Pure California Olive Oil is also becoming more and more appreciated by the trade. They are beginning to realize that California producers take a pride in putting up an article which is pure, and in keeping up the standard of what they send out. Such varieties as Manzanillo, Mission, Obliza, Ascolano and Sevillano are the standards for pickling purposes. In oil varieties Rubra, Columella, Nevadillo, Blanco and Pendulina are the standard sorts.

IT'S PENNY WISE

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow St., Los Angeles.

Armstrong Nurseries

Select Fruit Trees

With the advent of another planting season you will be interested in fruits for the orchard and garden. In view of this we want to call your attention to our full and complete stock of well grown trees, embracing all the desirable sorts. If interested send 2c stamp for our superb catalogue

Armstrong Nurseries, Box 14, Ontario, Cal.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

The Johnson & Musser Co.

Los Angeles, Cal.

SEED CATALOGUE Now ready. Write for it.

GEO. B. WARNER'S

Orange County Nurseries

Choice line of Orange Trees, consisting of Valencia Late, Wash. Navel, Navelencia, King Tangerine. Eureka Lemon, Budded Loquat, Blue Gums, Red and Sugar Gums, large stock Soft Shell Walnut trees 3 years old, Grafted Walnuts, Palms, Shrubbery, and general line of deciduous fruit trees. Write for price list.

Est. 1889. SANTA ANA, CAL.

STEWART BROTHERS NURSERY

The Oldest and Best Established Nursery in Southern California

The largest and healthiest stock of all kinds of Deciduous Fruit Trees in Southern California, from the famous Oregon Nursery Co. Nothing equal in size or healthy growth, with unsurpassed wealth of roots. Many thousands Soft Shell Santa Barbara Walnuts grown by us and guaranteed to be of superior quality—(see sample nuts at the office). Citrus trees of all kinds and varieties. Ornamental Trees, Palms, and everything in the tree line desired for Spring planting. Call on

712 S. SPRING ST. LOS ANGELES, CAL.

WALNUT TREES

From carefully hand-selected seed. Postal gets prices.

A. A. Mills - - Anaheim, Cal.

Economical Spraying

Power Sprayers do the work **quicker,** do it **better** and do it **cheaper**—that is, if you buy the right kind. Some people think an engine hitched to a hand spray pump makes a Power Sprayer, but it is more likely to make a "Peck of Trouble."

Bean Power Sprayers

embody the practical experience of the best growers and contains scores of important details which are absolutely necessary for rapid, thorough work without annoying delays. You know that little things are what cause delays and expense, and it is all such points that five years of experience have eradicated from the **Bean Power Sprayer.**

Every **Bean** outfit is sent out complete, ready for work. Nothing left to fix up. No further supplies needed. It is complete and so simple that no previous experience is required for operating.

How the **pressure** is **kept constantly even,** the **liquid always stirred,** and why **spraying** can be **done for one-half the cost** of hand pump work, are all questions we shall be pleased to answer.

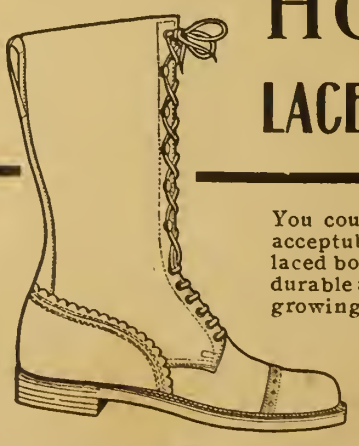
Write to-day for our free illustrated catalogue No. 18, which gives all particulars. State number of acres and kind of fruit. (Catalogue No. 16 describes hand pumps.)

Bean Spray Pump Co.
161 W. Santa Clara St., San Jose, Cal.

A PAIR OF

HOEGEES'

LACED BOOTS for a Christmas Gift!



$ 3.50
5.00
6.50
10.00

You could hardly think of anything more acceptable to the outdoor young man. These laced boots are being made handsomer, more durable and comfortable all the time and are growing in popularity wonderfully fast. We have them in various styles, heights and many kinds of finish from black down through the various shades of tan to pure white; also in variously tinted buckskin effects—some of which look delicious enough to be served on the table. All joking aside, these boots are really works of art, both as to looks and construction; being made over the best lasts and reinforced and made wearproof and waterproof as far as human ingenuity goes in that direction. A pair coming down the pike, with their jaunty lacings of white rawhide, and the pride-of-the-family safely planted inside, is a sight to see.

Send for our outfitting catalogue at once and read carefully.

The Wm. H. Hoegee Co., Inc.

Exchanges 87. 138-142 S. Main St., Los Angeles

CITRUS FRUITS

SAWDUST IN ORCHARDS.

Editor Cultivator: In a November number of the Cultivator an article under the heading, "best material for bedding to keep animals clean and absorb the greatest amount of liquid manure," three kinds of bedding are mentioned, straw, sawdust and shavings. Across the street from my orange grove is a planing mill where I can get shavings and dust for drawing them away but I have not done so from the fact that an article appeared in the Cultivator the past summer written by a man, I think near Pasadena, giving his experience with shavings and sawdust on his citrus orchard, to the effect that it was ruinous to the trees. Would be thankful for your opinion on this point in the next issue of the Cultivator. W. D. C., Colton.

In answer to the above I would say as to personal experience that two years ago I applied fifteen large loads of fine shavings and sawdust to about three-quarters of an acre of heavy soil in orange orchard. The shavings were plowed in with the effect on the soil to make it readily absorb the irrigation water during the summer following the application, but this year it had no perceptible effect. The quantity applied had no injurious effect on the trees. It had no lasting effect in loosening the heavy soil, and under the circumstances I did not believe it paid, as I had to haul the material two miles.

Shavings and sawdust have been applied to orange orchards in the vicinity of Pasadena and I have heard of only one case where the orchardist thought it injured the orange trees.

I have one case in mind of an orange orchard where a large amount of this material from the mills was applied to the surface, the orchard not being plowed, only cultivated. The owner has been applying shavings and sawdust to this orchard for three years past and is continuing to do so at the present time. The soil is a heavy one. The mulch of shavings and sawdust aids in catching and holding the rainfall and to some extent prevents evaporation and the amount of irrigation water used has been materially cut down.

There is apparently no injurous effect on the trees and there is a fair growth of new wood for this year. The crop of fruit last year was not a large one and this year the crop is light.

I believe in this case better results would have been obtained if the orchard had been plowed and the material thoroughly mixed with the soil to a depth of eight inches. This would have loosened up the soil. I certainly do not favor a mulch of any material on the surface of the ground but rather mixing of the woody or vegetable material used with the soil to some depth, to render the soil loose and porous. I do not believe sawdust or shavings would be beneficial to a light porous soil. Of course every one knows that sawdust has no fertilizing material in itself and is only beneficial in making heavy soils loose and porous, admitting the air and water and thus aiding in rendering available the natural elements of fertility already in the soil.

I should prefer the use of stable manure, or peas as a cover crop, plowed under to improve the condition of heavy soils as it not only improves the physical condition but adds necessary plant food.

Apolving of Fertilizer to Citrus Orchards.—A novel experiment is being made in the application of sewage to a thirty-acre orange orchard just south of the city of Pasadena and on the outfall sewer. The sewage is pumped at a small expense from the sewer and is used to irrigate the orchard.

The time of applying the fertilizer s important as I have shown in former articles in the case of forcing lemons into bloom at the right time and to aid in the setting of the orange crop. The effect of fertilizer applied this fall, winter and next spring will be apparent next summer in the growth of new wood and the greatest benefit in increasing the fruit crop, will come the year following. It is economy to apply fertilizer every year in a not too excessive quantity. Spasmodic applications in large quantities are not to be recommended. The object sought is by regular applications to constantly feed and keep the trees in a vigorous fruitful condition.

* * *

Effect of Different Fertilizers.—Some orchardists are strong advocates of stable manure while others as strongly support and recommend the use of commercial fertilizers. Both, in my opinion, are good when rightly used, and the combination of stable manure and commercial fertilizers is, in my opinion, the ideal method. Too much stable manure lowers the quality of the orange but in the right quantities greatly aids in improving the physical condition of the soil. One orange grower who has experimented largely, says that guano has the effect of early ripening of the orange. The first experiment with guano was a strip through the orchard, showing a decided effect upon the fruit in its early coloring. The next year guano was applied to the whole orchard, ten acres, with the result of early coloring and ripening of the fruit. If it is true that guano hastens the ripening of oranges, those sections that grow oranges for the early or holiday market would be benefited by the use of guano. It is a matter well worth inquiring into by the orange growers of Central California.

* * *

Home-Made Fertilizer.—Fertilizers, whether stable manure or commercial are expensive when they have to be bought, and as a result many citrus orchards fail to get the annual dressing required to keep them in good fruiting condition.

On the small orange ranch there is a good opportunity to increase the home supply and cut down the bills for outside fertilizers. The first source of increase of home-made fertilizer is the saving of all the liquid manure by using absorbent bedding for the stock kept on the place. Straw, sawdust, weeds, leaves and sand can be used for this purpose. As an instance I call to mind a New England farm near a manufacturing city, where a dairy was kept. The barn was an old-fashioned side-hill structure with a manure cellar. The cows were stabled at night through the summer fine sand was used for bedding and as an absorbent of the liquid manure. In the cellar, with cement bottom, was kept a few head of swine. Grain was scattered on the compost and the swine were utilized in rooting over and mixing the material in the cellar. The cellar was filled three times a year with the manure and bedding of sand. The manure was used in growing corn and on the meadows. The final result was to increase the fertility of the farming land to the highest possible degree. The meadow lands (river flats) produced three crops of hay, the last a light crop or rowen. This shows what may be done under methods of intensive culture. With the present high price of fowls, eggs and dairy products in Southern California the citrus fruit grower might not only add to the income of the fruit farm, but largely increase the amount of fertilizer produced on the farm by keeping a good stock of fowls and a few cows. It is a well know fact that the fertilizer from the chicken houses is one of the most valuable. This matter at first may seem a small one but will be found in the sum total an important adjunct to the citrus fruit farm. If in connection with the home supply of fertilizer, we should utilize the leguminous cover crops as a source of fertility we will have found a solution for the fertilizer problem and the maintaining of citrus orchards in the highest degree of fertility and fruitfulness.

Waite, Bailey & Lynch, buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, etc. Otto gasoline engines, all sizes, to 200-H. P., better built, more economical, therefore superior to all others; prices and terms that will insure due consideration. 943-945 N. Main st., Los Angeles, Calif.

VALENCIA LATE

And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Glendora, Riverside or Redlands, as desired. Address

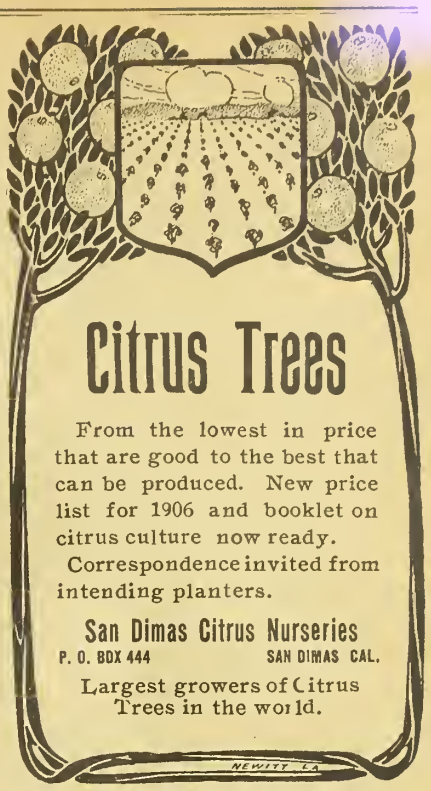
Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Stop! Listen!

Buy Orange Trees that are true to name. I do not own the largest nursery in the world, but can produce the best trees in the world, and can beat the world on prices, according to quality.

H. M. Cole *Third House S. Hill Ave. Pasadena, California*

Sunset Phone Main 450



Citrus Trees

From the lowest in price that are good to the best that can be produced. New price list for 1906 and booklet on citrus culture now ready.

Correspondence invited from intending planters.

San Dimas Citrus Nurseries

P. O. BOX 444 SAN DIMAS CAL.

Largest growers of Citrus Trees in the world.

NEWITT CA.

ORANGE TREES

Oldest Established Citrus Nursery in California, at Alhambra, Los Angeles County

Late Valencia and Washington Navels, Lisbon and Eureka Lemons. Guaranteed true to name. No better trees in this State. Lowest market price. Three-year buds, four-year roots. Horticultural Commissioner's certificate. Order early, as good trees are scarce. Inspection invited.

E. G. Wood, Owner, at Nursery or Room 732 Huntington Building, Los Angeles, Cal.

DRIED GROUND TANKAGE

THE BEST AND MOST ECONOMICAL FERTILIZER

ANALYSIS { 10½ per cent Ammonia / 18 per cent Bone Phosphate

WRITE US FOR PRICES AND PARTICULARS

Western Meat Company - - San Francisco

How 10% Gross

On Every Car Can be Saved by

GROWERS

Of course you read that news article on page 438 of Nov. 10, issue California Cultivator—well this tells about it.

Using the New Patented

Cyclone Car Cooler

Address Citrus Cooling Company

Chas. F. Edson, Manager

950 West 20th St. Los Angeles, Cal.

FOR FREE CIRCULAR

Conducted by PROF. A. J. COOK, Claremont

BEES AND HONEY IN EUROPE.

I think that I havc already called the attention of our readers to the fact that while there are many colonies of bees in Europe—more in number and more widely distributed than in America—yet there are not many largc apiaries. It is the want of many to keep and care for a few colonies, each person hoping to secure a little addition to his income and supplying the family needs rather than his livelihood from them. This, of course, prevents the rapid progress in methods and management. The improved hives, sections, and elegant preparation of the honey for market is largely absent in Europe. I saw little honey exhibited for sale,, and that was put up in a way that recalled American methods at least thirty years ago. In a very few cases did I see honey in sections, as we see it so generally in our own country. In France, Belgium, Holland, and Germany, while honey seems not very much in evidence, when it is seen it is almost invariably in bulk—the combs cut out, and almost never in the neat sections that are so attractive in the markets of the United States.

I have also been surprised to find how rarely honey is served in hotels and restaurants. I have repeatedly called for it to receive the reply that there was none. When I see it in the stores, even though it is in form that would not be tolerated at all in our grocery stores at home, and inquire the price, I am surprised to find in England and Scotland that one must pay a shilling (25 cents) per pound; in Paris and Belgium, a franc or more, and in Germany a mark. So we see the price in Europe runs about the same, and is very high. Few people here have incomes so that they could afford to buy honey except in very small quantities and at long intervals. The rich would not buy very much for they would not wish it in such ugly, crude form as it is handled in these markets. Does not this show that we may hope for a good market for honey on this side of thc sea when it is once worked up? I believe honey can bc produced in America at a good profit at 6 cents per pound for the same quality of comb. When our marketing machinery is so adjusted that we can market direct through the aid of our own associations, with no call upon the middlc men, I believe we can market the honey here in much better shape than it is handled now, and can at the same time shave the price. Today the best fruit here, fresh and preserved, comes from California and other parts of the United States. True the pricc ranges high, but there is a call for it and it sells. Of course fruit, as a perishable commodity, must sell very high when it sells so far from the place of its production, and yet it is here. Honey is not perishable, and so possesses great advantage. I see no reason why American honey as well as American fruit may not find in the future a greatly extended foreign market, and at prices that will shade those of today, and the article be much superior to most now sold. This will not only benefit our own producers but it will also be a Godsend to. the consumer here, who, at present, for the most part must deny himself these luxuries however much he may yearn for delectable sweets and fruits.

* * *

SUGAR HONEY.

A correspondent asks me why I do not continue feeding the best grades of sugar for honey; not merely for food for the bees to keep them from starvation in case they have a meager supply of honev or stores, but for honey to sell. He says the past season was one of honey dearth from flowers. He thought to see what could be done by feeding sugar. He fed only a good quality of sugar, and has secured a very excellent quality of honey and at a reasonable profit. He says he will practice this much more extensively in future. He says: "This is honey, not stored sugar syrup. Any one who tastes it and pronounces it other than hon y should be provided with a guardian.".

Fifteen years ago I carried on some experiments. I fed a strong colony of bees nearly 20 pounds, as I remember, of sugar syrup made from the best granulated sugar. I fed this just at even tide, and found that all was stored in the combs the next morning. I extracted some of this the next morning and then waited for the remainder to be capped over. I had both samples analized by three of the best chemists in the United States—one the Government chemist. They also analyzed the syrup. The analysis: they all pronounced the syrup as pure cane sugar, and the honey as mostly reducing sugar, though the percentage of reducing sugar in the sample from the comb that was capped over was much more than in that extracted the morning after the feeding was done. I wish to add that the honey was honey, not stored sugar syrup. I had it sampled by several people, some of them bee keepers of ability and wide experience. All said it was good honey and very excellent in flavor. I will say that it certainly was honey, and I am sure would rank with the best. The nectar of flowers is also cane sugar like that of our kitchens. The bees, in the digestive process, as they store this, change it from cane to glucose sugar. There is always a little cane sugar that is not reduced. In these samples there was more in the honey taken at once. This shows that digestion goes on after the bees store the honey. It would be interesting to know whether the bees take this again into their honey stomachs or whether they add more digestive ferment to the honey after it is stored. Surely in this case disgestion was not completed, for the honey changed not a little after the first day. Honey owes its peculiar flavor, first to the fact that it is honey or digested sugar. This flavor will be common to all honey and will make the experienced able to pronounce upon the market. Then there will also be a flavor consequent upon the essential oils of the nectar. If there is very little flavoring material in the nectar, as in the case of white clover, then the honey will be very mild and delicate of flavor. Linden for like reasons will be more pungent, and buck wheat quite rank in flavor.

I take issue decidedly with several as to the definition of honey. I say emphatically that honey is liquid sugar stored by bees in their combs. We cannot give the source. It will usually be from floral nectar. We can never say surely that it will be. It may be from honey dew; it may be from stolen honey; it may be from sugar taken from some near by grocery, as we can never know the source of the nectar that gives the honey, so we can never make the source a part of any practical definition. These then are facts: 1st, honey is digested cane suggar, unless it comes from honey dew, in which case it needs no digestion; 2nd, the stored product of bees is honey whatever its source; 3rd, honey from sugar syrup is not only honey, but it is very excellent honey; 4th, the digestion or change from nectar to honey is not completed when the honey is stored, but continues for days, possibly till it is capped over and maybe even later. We see then why cured or well refined honey may be superior to others.

And now I am ready to answer the correspondents question. I have not continued to urge or even to suggest feeding sugar syrup for honey, because many bee keepers were loud in their protests against even such a hint or suggestion. They said it would be selling sugar, not honey. This, from what has been said, we see is not true. They further argued that it would subject the industry to suspicion , to just criticism, and to inquiry. I believe this also a mistake. What is really true, honest and scientific need scare no one. I believe such timidity was unnecessary and uncalled for, and not a mark of wide vision and good sense.

Again I am not sure that such honey can be produced at a profit, but I believe it could, and it seems our correspondent has proved that it can. Because I felt that such honey would be costly, possibly too costly to sell at a profit, and more because of the scare among bee keepers. Because of these suggestions and these facts I have kept still, though not without mental protest. I believe in all such cases we do wisest when we hew to the line of exact truth, let the chips fly wheresoever they may. Were I a bee keeper I should not hesitate to feed sugar for honey, nor would I refrain from selling the product as honey, nor would I fail to denominate it as excellent honey. And if I found it was produced at a profit I should feed largely of this bee food, just as I would feed my cattle for butter and cheese. So too would I feed my bees for honey. Any howl from nervous, timid souls would not harm me nor the industry. People will always buy a good thing, and good honey will never go begging. Surely any one who eats oysters—here the entire animal goes down—and wishes more, would never scowl at so clean and wholesome a product as sugar syrup honey.

In Actual Use

Keen Kutter Quality tells in the actual use of the tool. Keen Kutter Tools are not retired by an occasional knot or tough piece of material. They are made to stand hard work and lots of it. They are as good as new after poor tools have gone to the scrap heap. The

KEEN KUTTER

brand covers a complete line of tools. In buying any kind of tool just see that the name Keen Kutter is on it and you have assurance of full satisfactiou. Keen Kutter Tools have been Standard of America for 36 years and are the best that brains, money and skill can produce.

Some of the kinds of Keen Kutter Tools are: Axes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Scythes, Tinners' Snips, Scissors, Shears, Razors, etc., and Knives of all kinds. If your dealer does not keep Keen Kutter Tools, write us and learn where to get them. Every Keen Kutter Tool is sold under this Mark and Motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."

E.C. SIMMONS KEEN KUTTER TRADE MARK ST. LOUIS MO.

Trade Mark Registered.

SIMMONS HARDWARE COMPANY,
St. Louis, U. S. A. 298 Broadway, N. Y.

Send for Tool Booklet.

FERTILIZERS "FOR THE LANDS SAKE" A·C·W TRADE MARK

Phones { Boyle 3 / Home 6063

"A SQUARE PEG IN A ROUND HOLE"

It is often the case in using fertilizers,—much money is wasted every year by the users of fertilizers "putting a square peg in a round hole"; it doesn't fit, The right mixture is important. Most fertilizer men are honest and most fertilizers, too—but are the mixtures right for your needs?

The ***Agricultural Chemical Works*** are now in business 12 years and have the ***experience*** worth thousands of dollars—they give you ***that*** experience ***free.*** They are as anxious for your business now as in 1893, 12 years ago. Write to our agents in all citrus districts, or to

Agricultural Chemical Works — *Manfrs. of A. C. W. Fertilizers . . .*

901-907 MACY STREET · *LOS ANGELES, CAL.*

Our Book of Directions "How to Lay Out a Lawn" FREE. Write for It.

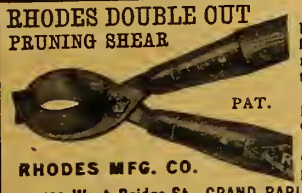
THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

Red Gums for Sale
Thousands of Red Gums 4 to 6 ft. high in cans at $8 per hundred. ORIENTAL NURSERY, T. L. Adams, prop., Station L, Phone Macy 2051, Los Angeles. East end of Brooklyn Ave.

OLIVE CROP FOR SALE
For Sale on trees or f. o. b. Goleta, Cal., a 20-ton crop of olives. Address
MARTIN & WATSON, GOLETA, CAL.

600 Almond Trees For Sale
The Nonpariel, I X L, Ne Plus Ultra, Hache's Prolific, Drake's Seedling. Height, 3 to 7 feet. Prices on application.
Isaac Martin - Merle, Cal.

THE VERNON NURSERY
4524 Central Avenue, Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL, Prop.

RHODES DOUBLE CUT PRUNING SHEAR


Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.
RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

THE VALUE OF QUALITY
When you are considering the purchase of a wagon, buggy, harness, farm or dairy implement, always bear in mind that we have what you want and of the very best quality at the right price.

DON'T THINK
that you save any money in buying an inferior article. A poor wagon will cost nearly as much as a good one and the repairs necessary to keep it in good running order are very expensive.

BUY THE BEST
and you will be better satisfied and have longer wear at less expense than in the purchase of a cheap, thrown-together trap. We carry only such goods as we can recommend to be of first-class construction.

OUR POLICY
of giving full value has been adhered to since beginning business nineteen years ago. We have constantly increased our stock and now have a complete line to offer our customers.

CALL AND SEE US
when you are in Los Angeles. We shall be glad to show you the class of goods we carry. Our ad in the Cultivator of two weeks ago, page 485, will give you a general idea of what we have.

NEWELL MATHEWS CO.,
200-204 No. Los Angeles St.
Los Angeles, California

When writing advertisers mention Cultivator.

What a College Farm Is For

Prof. L. H. Bailey, Dean of the College of Agriculture at Cornell, recently gave a talk on the above subject. After some remarks about the purposes of such a farm as stated by various parties, and somewhat of the history of college farms in general, he finishes in the following words:

"It seems to me that we have now come to the final proper stage or idea—that the college or university farm must be a laboratory. The pattern farm, model farm, commercial farm and illustration farm are all incidental and secondary to this general purpose. A college farm is not primarily for the growing of profitable or model crops. I should rather have the opportunity to teach one student by means of a farm than merely to show one hundred persons a field of perfect corn or pumpkins. If we are to study principles of plowing in the class room, we must also study them in the field, even if we are obliged to destroy the crop. We must determine and test the relations of plowing and germination aeration, microbic life and other questions of vital importance. If both ends cannot be attained, it is more important that a man learn how and why to plow than it is for the college farm merely to grow a good crop of wheat. Even if I were obliged to tear up the drains on a farm in order to teach proper drainage of the land I should want the privilege of doing so. The botanist pulls up the plant in order to study it. In learning how to grow potatoes we may need to pull them up to study the root system even though we destroy the potatoes in doing so. I do not see how an orchard can be a "model" if it is used as a means of teaching students how to graft and prune. The stock judging pavillion that is to be a part of our agricultural compound is to be so arranged that the stock can be led or driven into it, as is done in other agricultural colleges. The cow, the sheep, the pig, will be used as a laboratory material. The students will study real live cattle, not pictures and models. They will endeavor to find out why cows are good or bad for this purpose or that. They will examine for conformation. These cows are just as much laboratory material as the plants of the botanist or the chemicals of the chemist. Students will study cattle in the same spirit that students in geology study the stratification in rocks. Of course we shall need to keep the stock for the purpose of securing milk to be used in the dairy laboratory.

The milk then becomes laboratory material and the cows which produce it may also still be used for instructional purposes. In other words, the value of a college or university farm from a teacher's point of view lies in its usefulness as a means of teaching. You may not think of such an area as a farm; if the terminology troubles you, then call it land or field laboratory.

Agricultural education now rests upon an enlarged and quickened idea of the laboratory, or actual touch with objects, phenomena and forces. We are introducing laboratory methods into all kinds of schools; the kindergarten, manual training, school-garden, nature study and science work, all mean laboratory method. And now we also introduce the affairs of everyday life into the schools. All laboratories are pedagogically valuable in proportion as they are in vital connection with theoretical instructions. No school, whether in New York or elsewhere, from the primary school to the university, is a good school unless it has laboratory work. The effort is now being made to introduce into every high school in New York a year's work in biology for the first year; and the recent syllabus allows this to be followed, in the second year, with work in agriculture.

It will never be possible to systematize and to schedule laboratory work on a farm as explicitly as under cover because of the uncertainties of the weather and the distances involved. Therefore, indoor laboratory work will always be necessary in agricultural teaching; but the indoor work should be looked on as a supplement to the outdoor work.

I do not pretend to say that we have developed a perfect utilization of our own farms as laboratories, but we are working toward that end. The farms need much improvement and equipment. Parts of our farms are being used for experimental or research purposes. Incidentally these areas also, become of value to students, but primarily they are investigational rather than educational. I am speaking now of farms that are to be utilized for pedagogical work rather than for investigational work. As such, we want land that we can use when we choose and as the necessities of the case demand. I am asked whether, then, college farms should not be used for the growing of maximum crops. I reply that a college farm is a means to an end; the end is the teaching of students; the growing of maximum crops may or may not be the best way of attaining this end. We hope to conduct our farms on the best business principles and in conformity with the very best farm practices; we expect to make them interesting and attractive to students and visitors; nevertheless the laboratory utilization of these areas is to be our first consideration. If we are not using farms as a means of training men, then we are not using them for pedagogical purposes, and the future will not justify our possession of them. For myself, I would rather have ten acres of land to use when I want it and as I want it than to have any number of acres to look at and admire.

RED CLOVER AT LONG BEACH.

Samuel Brown of Long Beach asks if red clover will do well on the south slope of Signal Hill; if not what will. Red clover is not a California plant. Like crimson clover it will not do well in our State. Alfalfa is pecularly adapted to our soils, climate and conditions. It surely will do exceedingly well if it be given plenty of water. It is a great water thief, and one must be sure of a good water supply if he is to grow this plant. In all the region of Long Beach there will be artesian water after the latter fails farther up the valleys. There is another reason for planting alfalfa. The demand will always exceed the supply, so we may rest assured of a good market at splendid prices.

TREES

CALIMYRNA FIG
There are a great many sorts of Smyrna Figs. We catalogue six kinds, but these do not comprise our entire collection. There is only one variety, however, which five years production on a commercial scale warrants us in recommending it for drying purposes, and this particular variety we have designated as above to give it the distinction it deserves. When you buy your trees from us, you know you are purchasing stock originating from pedigreed trees, which have been producing the highest grade of fruit for a period of years. When you purchase a thousand peach trees, you usually designate what you want. You certainly would not permit your nurseryman to send you a lot of varieties, without labeling them, if you could help it. Well, it is the same with the Smyrna fig, some are early, others late, some are purple, others green. Can you afford for the sake of saving a few cents to take chances on buying trees, which cannot be relied on. We were the first ones to demonstrate the value of this fig, and with our seal we guarantee the genuineness of our trees. Prices lower than ever before.

FRUIT TREES
Are grown on a deep, alluvial river bottom, virgin soil, consequently the root system is as perfect as good soil can make them. Our assortment of apples, pears, peaches, prunes, apricots is more complete than ever.

ORANGES AND LEMONS
Our stock is grown in Exeter, the famous thermal belt of Tulare County. The soil is a rich, deep, black loam, just the kind which develops the highest grade of fruit, as well as the most perfect type of tree. Our assortment consists of all standard varieties of Oranges, Lemons, Pomelos, Citrons, Limes, etc. Carrying out the lines already established in the other branches, we do not confine ourselves to one or two standards and no more, for although it costs money to keep up a stock of many varieties, we want to be on top in this, as well as in everything we specialize in the nursery business.

GRAPE VINES
If you do not know it, you ought to know that we are the largest growers of vines on the Pacific Coast. We are not only growers of raisin, wine and table grapes, but we are also making a specialty of vines grafted on Phylloxera resistant roots. Our great and enterprising neighbor, Mexico, is having its vineyards devastated by this pest, and we have already sold two orders to prominent vineyardists there, who know what our stock is, consisting of eighty thousand grafted vines. How did we get such orders? Because we had pleased our customers before, so they had no hesitation in patronizing us again.

ORNAMENTAL STOCK
Our stock of Texas Umbrella trees branched in all sizes, guaranteed absolutely true to name, is better than ever. We are extensive growers of Poplars, Mulberries, Maples, and all deciduous ornamental trees suited to our conditions.
In evergreens, we have Acacias, Eucalyptus, Palms, Roses, Greenhouse plants, in fact everything you want for your garden.

OUR NURSERIES
Eleven hundred acres in four distinct places. Expensive to run a business so widely distributed. We konw it. Why do we not concentrate all in one place? Because we want to be in the position to grow the best of everything, and to do this, must select the soil to suit the tree, shruh or vine. No use to grow a tree where you know beforehand the conditions are not favorable for its perfect development. That is what twenty-one years of experience does. It places us in the position to grow the very best stock. In making a plea for your trade, we do so, not because we have the cheapest stock, but on the ground that when you favor us with your business, you will get the best which money, brains and experience combined can grow.

CATALOGUE
We will mail our large profusely illustrated Catalogue, English or Spanish, to any address on receipt of 5c postage. Price-list mailed on application.

PAID-UP CAPITAL, $200,000.00.
FANCHER CREEK NURSERIES, (Inc.)
GEO. C. ROEDING, PRESIDENT AND MANAGER
FRESNO, CALIFORNIA

When writing advertisers mention Cultivator.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

A SEASONABLE HINT.

As the planting season returns the needs of our gardens become again a matter of important consideration. We wish to make our homes attractive, and realize our many mistakes; many plants, according to the great law of nature, "the survival of the fittest," have died out. This law means to us that plants succeed with least care and attention when they come from countries with light rainfall and dry summers and existed under climatic conditions similar to those of California. It is always of special interest to visit a badly cared for or deserted place. If we see some bright spot of color, something doing well, we ought to make a special note of it for future use, for only in this way may we come to know those plants which, in our State, will virtually care for themselves.

THE GARDEN ACACIAS.

No garden in California will be complete with out a selected group of acacias; for smaller gardens those of medium growth are best. We must also avoid kinds that are like our common A. floribunda, residents of river banks, which will demonstrate their unfitness by leaving unsightly gaps in our shrubberies. Acacia cultriformis and its more robust ally, A. pravissima, are very beautiful. Acacia macradenia and A. homalophylla are valuable, blooming early, from December to March. A bare list would mean little, but your collection should include A. saligna, A. Baileyana, A. pycnantha of the robust growing kinds; and for the foregrounds A. obliqua. A. cultriformis, A. centis, A. salicifolia, A. diffusa, kept headed down to about three feet.

FLOWERING SHRUBS.

A group of spring flowering shrubs of especial merit are the genistas and cytisi, interspersed with various other beautiful members of the pea family; of these not the least attractive is the old-fashioned broom (Spartium junceum), blooming almost continuously. Among the cytisi are many coming from Spain, with white and yellow fragrant flowers, especially the white forms, known in Europe as Spanish broom. The Genistas also give many very attractive plants, but from the prevalence of yellow and white flowers, if we want variety, we may use a few plants of Polygalas, especially P. apopetata and the charming little Hardenbergia which makes a climber as well as an attractive shrub with purple and blue flowers. A specimen of the Cassias or buttercup, if only for its free flowering habit, should be included in this list.

DAHLIA ROOTS.

Dahlia bulbs (so-called) will soon have to be taken up and stored away for next season. In this climate, it is not absolutely necessary, but is much better than to leave them in the ground, as they take up room that can be utilized for other flowers during the winter season. When taking them up cut the stalks down to within one foot of the ground and store away in some dry sand in the cellar or other dry place. It will be a step in the right direction to label them as to color and height, providing you have not the names of the different varieties, as they can then be planted next season with a better idea of harmonizing their colors and growth.

SHRUB PRUNING.

Shrubs such as spireas, deutzias, philadelphus, weigelia, etc., should not be pruned at this season of the year. It is a mistake made by a great many and should be remedied. When they flower in the spring, it is along the full extent of the branches, and if pruned at this season it takes away the graceful effect that is so essential to their beauty. The proper time to prune them is immediately after flowering, which gives them a chance to make a good growth of flowering wood for another season.

BULB PLANTING.

This is the best time to plant Dutch hyacinths. They do equally as well in the shade as in the full sun. A good rich loamy soil is best, and it is a good idea to have a handful of sharp sand under each bulb as they will start root action better. The same may be said of the lilies: Harrisii, longiflorum, candidum, and auratum, which should be planted at once. Plant the hyacinth about three inches deep and mulch the bed well, but do not use fresh manure around the bulbs. Treat lilies in the same way, only plant them five inches deep.

Among the most satisfactory bulbs for spring bloom are anemones, ranunculus, sparaxis and ixias.

Plant the anemones and ranunculus from one to two inches deep, and the sparaxis and ixias an inch. A very successful way to grow anemones and ranunculus is to soak the bulbs a few hours and then pot them in two and one-half or three inch pots, according to the size of the bulbs, and put them away in a moist shady place until they show through the ground, when they should be given full sunlight, and in about five of six weeks they will be ready to plant out where they are to bloom.

The above way of growing them is a great advantage where room in the garden is at present occupied with other flowering stuff that can be removed when its season is over and these bulbs substituted. Ixias and sparaxis can be treated in the same way, but you should put three bulbs in a three-inch pot or five bulbs in a four-inch pot, and they should have the root well developed before being transplanted and disturbed as little as possible.

HARDY ORNAMENTALS.

The New Mexico Agricultural Experimental Station reports on a few ornamentals tried at Mesilla Park. Plants which will endure in that climate will grow anywhere in California. The report says: "Monterey Cypress (Cupressus macrocarpa) is a large growing evergreen with a yellowish cast and a broad pyramidal growth. The leaves give off an agreeable odor when they are touched.

Italian Cypress (Cupressus sempervirens var. fastigiata). This is a tall tapering evergreen with the side branches growing parallel to the central stem. It has a dark green and rough foliage. This is a very desirable tree for cemeteries.

The Trailing Juniper (Juniperus Sabina, var. prostrata) is a low spreading evergreen with a bluish green foliage and procumbent branches furnished with short spiny pointed leaves. It has a noticeable and agreeable odor. The Juniper is well adapted for single or mound work.

These three evergreens are giving good results and seem to be well adapted to this climate. Specimens of the two species of the cypress planted in the spring of 1903 are now from three to four feet in height. These can be propagated from seed, but where only a few specimens are wanted it is better to zet small trees already started.

San Luis Obispo County Lands. Best and Cheapest in the State. Rainfall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN
HAS REMOVED TO
345 SOUTH MAIN STREET
WHERE IN LARGER PERMANENT QUARTERS HE WILL BE PLEASED TO SEE ALL HIS PATRONS

Quality Seeds
FOR THE GARDEN AND FIELD
In ordering seeds this season intending planters should remember there is a general shortage in the seed crop throughout the country, and that in consequence much old and poor seed will find its way to the market. In view of this we desire to emphasize the fact that all our seed is produced by special sts in localities possessing soils and climates calculated to produce only the
Best Quality Seeds
Guaranteed to be true to name, plump and fertile. Interested, are you? Then write us your wants and we will give you particulars and prices calculated to be of interest to you. We have the goods and if you want results in the way of bonnteous crops, we can do you good. Shall we mail you a catalogue?
F. GILMAN TAYLOR
GLENDALE, CAL.

Greatest National Bank West of Denver and South of San Francisco
First National Bank
United States Depository for Government Funds
CAPITAL, $1,250,000.
SURPLUS AND UNDIVIDED PROFITS, $2,860,000
We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.
OFFICERS
PRESIDENT—J. M ELLIOTT. VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS CASHIER—W. T. S. HAMMOND. ASSISTANT CASHIERS—A. C. WAY, E. S. PAULY, E. W. COE, A. B. JONES.
First National Bank, Los Angeles, Cal.

TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE.
TALLERDAY MANUFACTURING CO.
210 No. Los Angeles St. Los Angeles, California
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

In the Vegetable Garden

DECEMBER VEGETABLE CALENDAR.

The following vegetables may be planted this month: Beets, cabbage, carrot, cauliflower, lettuce, onion, pea, rhubarb, and spinach.

GARDEN FERTILIZERS.

The question of fertilizers is a broad one, especially for the garden where one plant needs much, another little, others none at all, while certain plants demand a special fertilizer. In regard to their value in making a stiff or "adobe" soil friable, a more or less strawy horse manure is to be preferred.

In such soils cow manure, unless very old, makes a bad matter worse. Cow manure will be found especially valuable on sandy or gravelly soils, though such soils will generally "digest" any amount of any stable manure. Certain it is that stable manures of all kinds, if well rotted, are preferable for garden work to any other class of fertilizer.

Prof. L. H. Bailey, writing in Country Life in America, March, 1903, says: "Of all the single commercial plant-food materials I suppose gardeners tie most to bone flour (when it can be secured). This contains both nitrogen and phosphoric acid. Potash is often applied in the form of unleached wood ashes. For myself I always like to have on hand a bag of nitrate of soda for nitrogen, one of muriate of potash and one of dissolved South Carolina Rock for phosphoric acid. These I apply separately in the garden as I think the plants need—one soon learns about how to use them.

One must be careful in the use of bone flour, it is a very powerful fertilizer.

ONION EXPERIMENTS IN TEXAS.

With this crop the seed was sown in beds and the onions transplanted to the field when they had attained suitable size. Thrips, which seriously affected the onions in the seed bed, were kept under control by spraying with whale-oil soap used at the rate of 2 lbs. dissolved in 6 gallons of water. At setting out time the tops of the onions were trimmed to about 5 inches and the roots cut back to about 0.75 inch. Eight cultivations were given. In addition the unirrigated plat received one hoeing.

Level cultivation was practiced and at no time was it deeper than 1½ inches. The irrigated plat received 4 irrigations in addition to the preparatory one which was given to both irrigated and unirrigated plats alike. A mixed fertilizer containing 5 per cent nitrogen, 6 per cent phosphoric acid, and 9 per cent potash was applied at the rate of 500 lbs. per acre and worked in each side of the row in March.

On one-twentieth of an acre the irrigated plat yielded 1928 lbs., of which only 2 lbs. were unmarketable. These yields are at the rate of 676.5 and 350 bushels on irrigated and unirrigated areas, respectively. The onions sold at Beeville for 2 cents a pound. The net profits on one-twentieth of an acre with irrigation was $33.45 and from the unirrigated plat $15.69. All of the expenses, such as cost of preparing land, irrigating, transplanting, fertilizing, harvesting, sacking, etc., are shown in tabular form. The variety used was the Red Bermuda.

It is believed that the results secured in these tests with irrigation would have been greater had the irrigation facilities been more efficient. At times the onions suffered from lack of moisture. In the variety tests 19 varieties were compared. The Bermuda onion again proved superior in point of earliness and yield.

DISEASES OF MELONS AND CUCUMBERS.

In a West Virginia Station Bulletin brief notes are given on the leaf spot (Cercospora citrullina), downy mildew (Plasmopara cubensis), leaf mold or blight (Alternaria brassicae nigrescens), and damping off, due to Fusarium sp.

The results of the author's investigations on the anthracnose (Colletotrichum lagenarium) are given at some length. The author describes cultures of the fungus, the germination of the spores, development of the mycelium, etc., and gives results of inoculation experiments that were made to determine whether the fungus causing the disease known as anthracnose of the watermelon could produce anthracnose in other plants. Inoculations were made from pure cultures and from watermelon fruits into a number of other plants, and the anthracnose was successfully produced on muskmelons, cucumbers, gourds and watermelons. Failures are reported in all the attempts to inoculate beans, and doubtful results were obtained with inoculations of squashes and a few other plants.

Experiments were carried on for the prevention and control of anthracnose, in which plats were sprayed with soda Bordeaux, Bordeaux mixture, and ammonical copper carbonate. The results of the applications showed considerable difference between the sprayed and unsprayed plats, and, considering the improved quality of the melons and the reduced amount of anthracnose, it appears that spraying with Bordeaux mixture was quite successful in combating the disease. The use of the ammoniacal copper carbonate solution was less successful.

CONTROL OF ASPARAGUS RUST

Results have shown that by careful attention to cultural methods and the relation of moisture to the development of the fungus the disease can be controlled to a considerable extent. Continued studies have shown that the rust can be almost completely controlled in California through careful attention to cultural methods and the use of treatments which are described at considerable length.

In 1904 an extended series of experiments were inaugurated by the State University to test the efficiency of sulphur, both as a liquid spray and as dry powder, for the control of the fungus causing the rust. Sulphur, either in dry or liquid forms, acting largely by its gaseous fumes, is a satisfactory rust preventive when properly applied. This treatment can be applied economically and practically in any of the districts covered by the investigations.

The use of contact sprays failed to give good results, but of those used resin Bordeaux was best and soap Bordeaux nearly as good. In general no spraying method should be resorted to until rust control by cultural means has been carried as far as possible, and it is probable that without reasonable attention to cultural methods the best of spraying will prove a failure.

The method of the application of dry sulphur, time of treatment, amount of sulphur required, and the relative efficiency of different kinds of sulphur are discussed at length in a University bulletin; the cost of material and application being estimated at from $5 to $6 per acre for two applications during the season. Where the sulphur spray is used it is said to have some advantage and be more efficient, a single application being considered the most effective single treatment for the rust.

VEGETABLES FIRST.

It is said that there is no other interest than those of fruit growing and truck growing for which railroad companies could be induced to subordinate their passenger traffic. Fruits and vegetables are given right of way, and even passenger trains are side-tracked to permit trains laded with them to pass.

Berry Vines
Logan, Burbank's Mammoth Black, Phenomenal. Prices on application
Isaac Martin Merle, Cal.

Berry Plants
Brandywine Strawberry, Cuthbert Raspberry, Crandall Blackberry and Loganberry Plants.
Toluca Nursery. Toluca, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297
Pasadena, Cal.

Strawberry Plants
200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address
F. S. Lee, Pasadena, Cal. Phone Main 922

LADY THOMPSON AND EXCELSIOR **STRAWBERRY PLANTS**
For Sale, or will exchange for Brandywines. Glen Marys, William Belts.
E. M. BOGER REDLANDS. CAL.

LAXTON'S NOBLE STRAWBERRY PLANTS
35c per 100, $ .00 per 1000. Order before Jan. 1st
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

BRANDYWINE PLANTS
Brandywine Strawberry Plants for sale, Kellogg's strain. No better nor thrifter plants grown Clean of all leaves; at bottom prices.
G. W MULLENMORE, COVINA, CAL

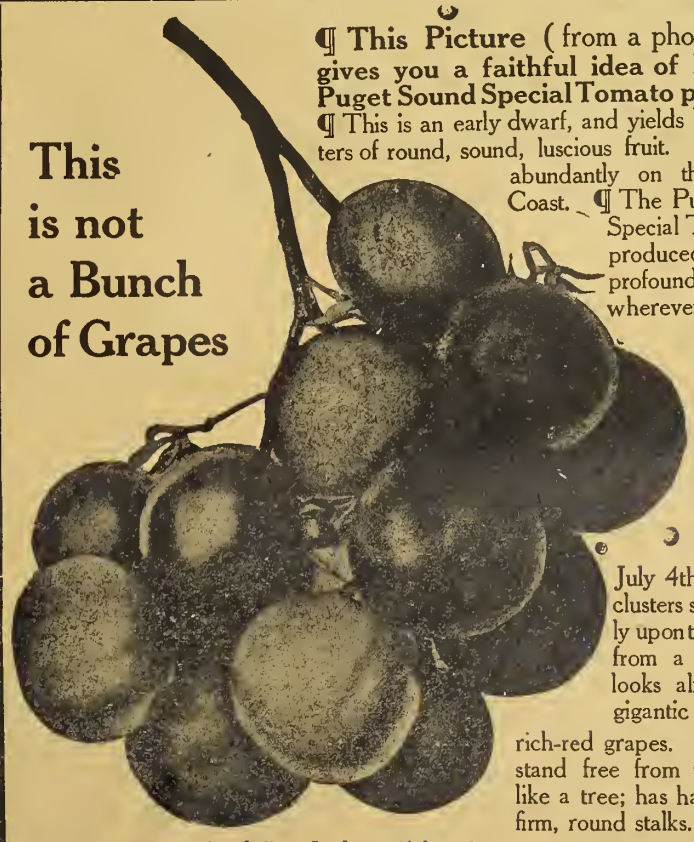
BERRY PLANTS
100,000 Brandywine Strawberries (Kellogg strain) 3.00 per 1000. 50,000 "A 1" Strawberry Plants, $3 00 per thousand.
50,000 Gray's Gardena Dewberries, $8 per 1000.
Raspberries, $8.00 per 1000
Loganberries $8 00 per 1000.
All raised on virgin soil and first-class plants.
A. E. HARRINGTON
R. D. NO. 6 LOS ANGELES, CAL.

STRAWBERRY PLANTS
(TROPICO BEAUTY)
The very best Brandywine stock at low prices for sale by the grower,
D. Griswold, Box 25, Tropico, Cal.

BRANDYWINE "A 1" **STRAWBERRIES**

250,000
Strong Growing, Thrifty Plants for sale Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.
Frank P. Baldosser, Covina, Cal.

This is not a Bunch of Grapes



¶ This Picture (from a photograph) gives you a faithful idea of how the Puget Sound Special Tomato produces. ¶ This is an early dwarf, and yields large clusters of round, sound, luscious fruit. It thrives abundantly on the Pacific Coast. ¶ The Puget Sound Special Tomato has produced a most profound impression wherever it has been used. In the Puget Sound Country it has been yielding full ripe fruit as early as July 4th. The fruit clusters so prolifically upon the vine that from a distance it looks almost like a gigantic bunch of rich-red grapes. It tends to stand free from the ground like a tree; has hard, heavy, firm, round stalks. The fruit stands shipment splendidly. Its beautiful color and freedom from blemish makes it a favorite among housewives and restaurant keepers. ¶ Abundant yield renders it an extremely profitable tomato for the truck gardener. It sells in preference to any other tomato on the market. This tomato was perfected solely in our trial grounds at Brighton Beach and can be obtained only from us. Northern grown and hardy. Order now. This Puget Sound Special tomato will please you more than any vegetable in your garden.
Sold only in sealed packages. ¶ Price (prepaid) packet 10c, ounce 60c, lb. $6.

CUT THIS OUT AND MAIL TO
CHAS. H. LILLY CO.
SEATTLE, WASH.
Enclosed is $.....in (money order, draft, 2c stamps) for which please send me.....packet,.....ounce .....lbs. Puget Sound Sp'c'l Tomato
All charges prepaid, also send your new Seed Catalog.
Name.....
Address.....
R-12

C. H. SESSIONS, ASSOCIATE EDITOR

BUT THERE'S ROOM FOR OTHERS.

Jersey cows are pre-eminently butter cows. This is their special merit. For this special work they are approached by no other breed save alone their counterpart the Guernseys. Other breeds of cows have merit, and have value, equal it may be, fully equal to the Jerseys, but their great value is in a line deviating from that in which their rivals excel. There is no room among cows, no cause, for a war of breeds. The merits of each breed—and they all have merit—is in the taste or fancy of the owner, or in the purpose for which they are wanted. That merit in either of the breeds is clearly defined, and no one seeking cows need go amiss for what is best in his case. In every case it is first a decision of what is to be done, and after that is decided it then becomes an art of getting the breed of animals suited to that kind of work.

We get tired, on the part of breeders and of their special breed journals, of the continuing belittling of other breeds so frequently heard and published. Better efforts in holding up and pushing to notice the merits of the breed represented than in an effort to belittle that of their rivals. While there is no breed that meets a more important field of usefulness than the Jerseys, yet there is room for others and all are wanted.—Jersey Bulletin.

THE KEEPING OF SWINE AS AN ADJUNCT TO DAIRYING.

As pork products are commanding better prices than for several years, it will be for the interest of farmers keeping cows and especially where there is a supply of milk the year around, to pay attention to keeping of swine.

As now, more than formerly, lightweight hogs are more in request than heavy ones, it becomes possible with good management to raise and fatten two broods of pigs in one yar, as at six months old they will be ready for market and at good prices.

This will allow a good number of pigs being grown and fattened with a moderate sized dairy.

To make the business most profitable brood sows should be kept on the farm and the pigs raised for use, thus saving the cost of buying, besides having such breeds as are best for the purpose.

Where a sow proves to be a good mother, gentle and easily managed, it will be best to keep her raising pigs as long as she will do well, as this is preferable to frequent changes.

She will bring two litters in a year and when not nursing her pigs can be quite cheaply kept.

Where pigs are raised in cool, wet weather, such as we have a little later it will be necessary to provide warm dry, comfortable quarters, and where these are furnished there should be no trouble with them, at least this has been our experience.

The pigs are weaned at five weeks old, and then fed on skim milk and buttermilk from the dairy, commencing very soon with a small grain feed, increasing it as the pigs grow older. The idea is to keep them healthy and hearty, growing and fattening at the same time. Middlings are the best until within a month or six weeks before disposing of them, when corn meal should be fed with the milk to give them a good finish.

At six months old the pigs should weigh from 150 to 200 pounds live weight, and bring a remunerative price.

The grain feed will cost nearly $3.00 each, and the balance may be credited to the milk from the diary.

In our own practice, the breeding sows and fattening pigs have always been kept in pens and small yards, but during ten years or more, not one has been lost by disease, which goes to show that they are healthy and hearty. Where it can be done, it would doubtless be better, at least to have the brood sow run out on the ground during warm weather.

The amount of manure that can be made from the progeny of even one sow, with plenty of material for the purpose, is an item worthy of the most careful attention, and will go far toward paying for the care bestowed on this kind of stock.

In the middle West the raising and fattening of swine is made a specialty of, and on a large scale, regardless of the keeping of dairies, but here it can only be made profitable when pursued in connection with the keeping of cows. It is an adjunct to dairying, one of the leading industries of California farmers, and as such adds materially to the receipts at the end

A Typical Milker.

FACTS ABOUT ALFALFA.

Alfalfa seed weighs sixty pounds to the bushel. For a hay crop, sow twenty to thirty pounds of seed per acre. For a crop of seed, sow fourteen to eighteen pounds per acre. Sow clean seed.

Sow alone, without any nurse crop. The latter is often just as harmful as the weeds.

Screen alfalfa seed before sowing to separate the dodder and other weed seed. Dodder is the worst enemy of alfalfa.

Sow alfalfa in the spring, as soon as the ground is warm—from the middle of May. Sow in drills or broadcast. Do not cover the seed too deep.

What You Gain In a few words, you gain this by using a Tubular: (1). One-quarter to one-half more cream, because Tubulars skim by centrifugal force, which is thousands of times stronger than the force of gravity that makes cream rise in pans. (2). One-half to twice as much for butter, because Tubulars remove dirt and bacteria, thus making gilt-edge butter possible. (3). Half the work saved, because you finish skimming five minutes after milking, feed warm skimmed milk at barn, and have only the can of cream to care for. Write today for catalog W-260. It tells all plainly.
THE SHARPLES SEPARATOR CO.
TORONTO, CAN. WEST CHESTER, PA. CHICAGO, ILL.
Sharples TUBULAR CREAM SEPARATORS

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. J. E. FISHBURN W. C. MARBLE, Secretary.
STERLING MILK COMPANY INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DE LAVAL SEPARATORS
AND OUR LINE OF DAIRY AND CREAMERY MACHINERY
are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

THE IMPROVED
U. S. CREAM SEPARATOR
WINS
GOLD MEDAL
The Highest Award
at the Lewis and Clark Exposition at Portland, Oregon. At the Pan-American Exposition in 1901, The U. S. Separator established and continues to hold the
WORLD'S RECORD
For Clean Skimming
As there was no skimming contest at the St. Louis Exposition last year, the U. S. Separator continues to maintain undisputed right to the title of the best machine of its kind.
These facts concern every cow owner who is in the market for a cream separator. To all such our free catalogue telling all about the U. S. Separator should be equally interesting. A copy is free for the asking. Address
VERMONT FARM MACHINE CO., Bellows Falls, Vt.
18 centrally located distributing warehouses throughout the United States and Canada 424
Prompt Delivery Assured California Customers from San Francisco warehouse No delays. Address all letters to Bellows Falls, Vt

of the year, as well as to the continual enriching of the soil.

In closing I will give an instance showing more particularly the profit that can be made out of this business when rightly conducted.

A farmer with a dairy of 20 cows—full blood Jerseys—last year, after supplying the milk required for several calves, fattened and sold 30 pigs. Aside from the milk from the dairy, these pigs consumed grain at a cost of $55. The first cost of the pigs was $57.

They were sold at five and six months old and averaged a little over $100 each, netting him $210, after paying for the meal and first cost of pigs.

This would be an average of a little over $10 per cow, which was indeed a most wonderful result. This farmer calculates that he gets from 20 to 32 cents per hundred pounds for the skimmed milk when fed to pigs in connection with the grain. Is this not a result worth considering and working for? So it would seem.—E. B. Tole.

FACTS ABOUT GOATS.

Many people in some way have become possessed of the opinion that the goat is practically a useless animal. They do not reach conclusions upon investigation, however, and do not discriminate between the different breeds. To them a goat is a goat, and there the argument ends. Investigation proves that the Angora goats are not only classed among the most useful of the domestic animals, and have been so classed for hundreds of years, but their usefulness is manifested in a variety of ways. The fleece, called mohair, furnishes some of the finest fabrics among various manufactures, their habit of browsing enables the farmer in a wooded locality to use them to help in cleaning away the forest; their flesh is exceedingly delicate and nutritious; the milk, though not so abundant as with the milch breeds of goats, is richer than cow's milk; their tanned skins, though inferior in quality to the skins of the common goat, are used for leather; their pelts make the neatest of rugs and robes; they are excellent pets for children; a few of them in a flock of sheep are a protection from wolves and dogs; their manure is noticeably helpful to the grass which follows them after they have cleaned away the underbrush.

Their value in their own particular sphere cannot be too highly estimated. We only wonder why this industry has not developed more.

PROFITABLE FEEDING OF THE DAIRY COW.

There are two common mistakes made in feeding cows; first, not feeding liberally enough; second, feeding a ration not properly balanced. It has been found by experiments that about sixty per cent. of what a cow can eat is necessary to merely maintain her without producing any milk or gaining in weight. This being true, it is evident that it is not economy to feed only a little more than this sixty per cent. needed to keep up the cow's body.

Below are given balanced rations that will furnish the materials necessary to produce milk in about the right proportions. By the term "rations" is meant the feed for twenty-four hours. If a cow will not give a good flow of milk in the early part of the milking period, when fed a liberal amount of one of these rations, it indicates that she is not adapted by nature to be a dairy animal and she should be disposed of. The amounts given are considered about right for a cow giving from twenty to twenty-five pounds of milk per day. For heavy milkers these rations are to be increased and reduced for lighter milkers. In making up these rations, it is designed that the cow be given practically all of the roughness she will eat and then sufficient grain is added to furnish the necessary amount of digestible material.

If clover is fed, use the following proportion:

(1) Clover hay, 20 pounds; bran, 5 pounds; corn, 6 to 8 pounds.

(2) Clover hay, 20 pounds; oats, 4 to 5 pounds; corn, 6 to 8 pounds.

(3) Clover hay, 20 pounds; corn and cob meal, 8 to 10 pounds; gluten or cottonseed meal, 2 pounds.

If alfalfa is fed the ration should be:

(4) Alfalfa or cowpea hay, 10 to 20 pounds; corn, 9 to 12 pounds.

(5) Alfalfa or cowpea hay, 10 pounds; corn stover, 10 pounds; corn, 8 to 10 pounds, and bran, 2 pounds.—C. H. Eckles, Missouri Agricultural College.

TREATMENT OF HOG CHOLERA.

After years of experience with the different hog cholera remedies and cures swine breeders have found that the most satisfactory method of preventing loss from hog cholera and swine plague is to use all possible precautions against the introduction of the germs of these diseases into the hog lot. When infectious germs are as widely distributed as these, preventive precautions will not always protect the herd from them. We must then use other methods of treatment, however unsatisfactory they may be. The medical treatment of hog cholera and swine plague has always been unsatisfactory. The only good results from the so-called cures and remedies seem to have come from the recommendation of cleanliness about the hog houses and yards and the dieting of both the well and sick animals as a part of the treatment. A few years ago the country was flooded with these preparations, but the demand for them has greatly decreased, and those still on the market owe their existence largely to the skill with which they had been advertised. The different antitoxins and methods of vaccination are what swine breeders are interested in at the present time, as they seem to offer more as preventive and curative agents than any other line of treatment. The yards, feeding floors, troughs and hog houses, must be kept clean, all litter must be removed daily, and the frequent spraying of the hogs, feeding floors and sleeping quarters with a water solution (two per cent. or more) of some tar disinfectant is a necessary part of the care. Both the sick and well hogs should be fed a light diet of sloppy food (shorts, bran and the like). Water or slops must not be left in the trough for the hogs to wallow in. Copper sulphate, four or five ounces to the barrel, may lessen the chances for infection. As soon as a hog comes down with the disease it should be removed to the pens set off for the sick animals. These pens

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

AUCTION
December 19th
200 Milk Cows 100 Heifers 30 Mares and Colts
Farming Machinery, Pumping Plant, Etc., at
DE LAMO 2 MILES SOUTH OF COMPTON

These are without exception the finest, well-bred Family and Dairy Cows ever offered at auction in Southern California. 90 fresh and balance coming in soon; all sired by thoroughbred bulls.

The lease of this ranch expires at the end of the year and consequently all Cattle and Machinery must be sold regardless of price. Interested purchasers are invited to inspect stock before sale and see cows milked and tested.

——MACHINERY——

20 horse-power Lambert Gas Engine
No. 6 Centrifugal Pump
2000 ft. 10-inch Gal. Irrigation Pipe
1000 ft. 8-in Gal. Irrigation Pipe
1000 ft. 1-inch Black Pipe
Complete Creamery Outfit, Engine, Boiler, etc.
Blacksmith Outfit
10 Plows, different styles, Stretchers and Chains
Header
2 Steel Harrows
2 Mowers
Rake
2 Beet Boxes
1000 pounds Barbed Wire
20 Sets Harness
40 Collars
4 Farm Wagons
Heavy Spring Wagon
2 Buggies
Carriage
5 Horse Troughs
All Out Buildings

TERMS: 6 months' time, on approved note. Liberal discount for cash. Take Long Beach electric cars, get off at DeLamo Station, on ranch. Sale at 9:30 a. m. sharp, on Tuesday, Dec 19th **FREE LUNCH.**
Andrews & King, Owners
BRIGGS & WEBER, Auctioneers
123 N. Main St., Los Angeles

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd Also Black Minorca chicken eggs in season. Stock for sale, also bred sow W. R McCASLIN & SON, Walsh Station, Sacramento County, Cal.

Registered Shorthorns
—MILK STRAIN—

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal

Vaccinate Now
AGAINST
ANTHRAX
AND
BLACKLEG
CUTTER'S are the lowest priced RELIABLE vaccines made and are cheaper to use than even free vaccines would be, because they afford greater protection.
Write for descriptive literature, testimonials and prices.
The Cutter Laboratory
322 E Rialto Bldg., San Francisco
If your druggist does not stock our vaccines, order direct from us, we pay all charges.

Thoroughbred Poland China Swine and Black Minorca and Barred Rock Poultry
High grade stock of best strains Young stock for sale M. BASSETT, HANFORD, CAL.

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

For Pink Eye, Distemper and all diseases Nose and Throat **Catarrhal Fever**
Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1 00 per box, ½ doz. $5 00. Sold by druggists, or sent express paid
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal

SECURITY
Stock Food
is sold on the honest plan of satisfaction or no cost. This is a straightforward plain talk and means just what it says.

Use **Security Stock Food** (glutenized) for growing animals; for fattening animals; for work horses; for milch cows. The Food won't cost you a cent if you can't see that **Security Stock Food** has saved feed, made quicker growth; kept your animals in better condition, given more milk, and made you more money. Write us if not satisfied and we will refund price in full. You are the sole judge. No questions asked.

For five years this guarantee has been on every package sold. It also covers Security Poultry Food, Lice Killer, Gall Cure, Colic Cure, Worm Powder, Calf Food, Heave Remedy, Healer and Rheumatic Liniment. Security preparations are sold by dealers in almost every town in the United States, who will recommend them highly and "back up" our guarantee.

SECURITY IS THE ONLY GLUTENIZED STOCK FOOD.
SECURITY STOCK FOOD CO.
MINNEAPOLIS, MINN.

should not communicate in any way with pens where the well hogs are kept. The dead hogs should be burned. This is not a difficult task if the body is placed on top of a pile of wood that will burn quickly and make a hot fire. The length of time the hog house and their surroundings will remain infected will depend on the care taken in cleaning them.

FEED THE DAIRY COW.

Dairymen often complain that their cows do not yield the milk they should. They do not know the cause, but lay the blame upon the cow when in fact, the fault is in underfeeding. The following from the Farmers' Tribune will be of value to the dairymen at this time when the colder weather is cutting down the milk supply.

"A cow at active work in the dairy requires from 22 to 25 pounds of dry matter for each 1,000 pounds of live weight. This dry matter should contain about two pounds of digestible protein, seven pounds of digestible carbohydrates and seven-tenths of a pound of digestible fat. Some cows will consume a larger amount than this with profit while others should be fed less. In other words the feed should be regulated by the amount of milk produced, or rather the cow should be fed all she will eat, provided she makes profitable returns therefor."

Readers of the Cultivator will remember that our advice has always been to feed liberal, well balanced rations. We can no more expect the cow to milk generously on a stinted feed than we can expect a man to work on half a meal.

It is a poor policy to underfeed any animal. Some years ago the New York experiment station found a farmer who, according to prices of feed stuffs in New York, was feeding his cows a ration that cost him $28.50 per head per year. His cows were under-fed and yielded only $25 worth of milk per head per year. That is, each cow was actually kept at an annual loss of $3.50. To demonstrate what might be accomplished with a herd of that kind, the station purchased the cows from this dairyman and fed them a liberal ration the following year. The cost of the feed, considering the price per ton the same as during the previous years, amounted to $34 per head, but the cows yielded an average of $40 worth of milk per head, giving a net profit of $6 per cow instead of a loss of $3.50 during the previous year when they were underfed.

This is simply one instance showing the value of liberal feeding. We mention it with the hope that some of our readers may get busy and study the cost of keeping their cows and returns secured therefrom.

WATER FOR HOGS ON ALFALFA.

An amateur in hog raising writes E. J. Wickson to inquire if it is necessary to provide water in an alfalfa patch where hogs run. The idea being to know if alfalfa alone will produce sufficient moisture for the hogs. This same question was recently asked of the Cultivator. Prof. Wickerson gives the following answer:

"We never have seen nor heard that hogs could be kept for any length of time on alfalfa pasturage without drinking water. Where it may be difficult or expensive to provide water in a field it is customary to let the hogs go to their own drink at intervals—say once a day. On all general principles good drinking water should be provided."

PREVENTING CONTAMINATION DURING MILKING.

Milk contamination takes place largely during the process of milking, especially when the cows are kept in the barn. It was, therefore, thought best to start with investigations along this first and most troublesome source of infection, namely, milking.

The plan of the experiment was to test a number of advocated methods of lessening milk contamination. To do this, four cows were selected from the university dairy herd, all uniform in breed, weight and time of lactation, so as to avoid, as much as possible, variation among individual animals. They were treated before each milking in the following manner:

The udder of cow No. 1, Diana, was sponged with water. The udder of cow No. 2, Annie, was sponged with a 5 per cent. solution of carbolic acid. The udder of cow No. 3, Hattie, was rubbed with vaseline. The udder of cow No. 4, Cora, was not treated, but the dust merely brushed off with the milker's hand as in the usual way.

The animals were tested both in the barn and out of doors. Exposures were also taken to compare cemented and wood floors with and without bedding. Exposures were also made in the barn, both when the cows were present and when they were absent, to determine the condition of the air. In all, some 200 plates were exposed, developed and examined for bacteria with the microscope.

The following is a condensed table made by averaging 100 exposures under the methods named:

	Colonies.
Dishes exposed under udders treated with 5 per cent. carbolic acid	344
Dishes exposed under udders treated with vaseline	346
Dishes exposed under udders treated with water	483
Dishes exposed under udders not treated	20,500

Conclusions.

It is safe to conclude from the foregoing experiment that some means of preventing milk contamination during milking should be employed.

The work required to sponge an animal's flank and udder is but a trifle, and great improvement can be made on the milk and its products.

The acid solution costs two cents per gallon, which is enough to treat ten cows. The only objection to this method are the disagreeable odor and the bother of mixing.

The vaseline costs about the same as the carbolic acid and serves as a good preventive for chapped or sore teats. It is also to be recommended for cows with sore teats which have to be milked by the stripping method. This treatment will not answer when the cows have dirty udders.

The water treatment is to be recommended for general use above the other three, as it is cheaper and does the work practically as well. This method can be used on any farm with little or no inconvenience, and the results obtained would more than compensate for the extra time required.

Cement floors are not only easier to keep clean, but are also less favorable to the growth and development of bacteria.

While it is necessary to use bedding in winter, in summer when cows are kept in the barn only during milking and feeding time it may be dispensed with to the betterment of the milk.

Milking out of doors in clean yards or pasture gives better results than in clean barns, even under the best of conditions. — Nebraska Experiment Station.

METHODS OF FEEDING SKIM-MILK CALVES.

The department of agriculture has recently prepared a farmers' bulletin in which is given some data relating to the feeding of skim-milk calves. The method of proceedure in rearing the skim-milk calf at the Kansas station is given, which is as follows:

The calf was allowed to run with its mother the first four or five days of its life. It was then removed and left twenty-four hours without food, when it became hungry and was easily taught to drink. For a week thereafter it was fed whole milk at the rate of four pounds in the morning, two pounds at noon, and four pounds at night. The second week about the same amount of milk was given in two feeds, morning and night. Within two or three weeks after removal from the cow, skim milk was gradually substituted for whole milk at the rate of half a pint per feed until the entire amount was skim milk. About a month after the calf was taken from the cow it was receiving twelve to fourteen pounds of skim milk; at two months, eighteen pounds, and finally reached twenty-two to twenty-four pounds per day.

The grain added to the ration was fed dry in boxes. The calves began to eat grain when ten days to two weeks old. At first a handful was put in the calf's mouth as soon as it had finished drinking its milk, and it soon learned to eat with a relish from the feed boxes. The kaffir corn meal or other grain was never mixed with the milk. The calves were fed what grain they would eat up clean.

When the calves were ten days to two weeks old they began to nibble hay and were thereafter fed all that they would eat. The hay was given fresh twice daily. Some hay from mixed grasses is considered best, with bright prairie grass a close second. Clover and alfalfa may be gradually added to the ration after the calves are several weeks old. Alfalfa alone was found to be too loosening for young calves. Changes from dry hay to pasture must be made very gradually or the calves are almost sure to have scours. This is done by turning them into pasture for only a short time the first day and gradually increasing the period, or by mixing increased amounts of green feed with their hay until they are getting about all they will eat.

The most convenient way of feeding the calves has been by putting them in stanchions. Here they were kept for a half hour after feeding until their mouths dried and they had lost their desire to suck each other's ears. Fresh water was kept within reach of the calves all the time, and it was surprising to find how many times a day the calves took a sip.

Calves thus treated made an average gain of 1.58 pounds daily up to five months of age, results which were considered satisfactory. The cost of the gain in one test was at the rate of $2.26 per hundred pounds for skim-milk, and $4.41 for calves running with their dams. When put in the feed lots the skim-milk calves made better gains than either of the other two lots.

Attention is called to the danger of calves scouring when fed on skim milk, the various causes of this difficulty being over-feeding, use of sour milk, feeding cold milk, feeding grain with the milk, using dirty milk pails and irregularity in feeding.

In severe cases of scours the addition of one or two eggs with the dried food has been found very effective. Another remedy that has been found successful is to give from one to two ounces of castor oil in the morning and follow in about twelve hours with fifteen to twenty drops of laudanum and a teaspoonful of dried blood. If the case is a persistent one, one or two raw eggs may be added.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

6 Thoroughbred Jersey Calves FOR SALE

High-grade stock. Pick of the herd. $50 each. Write or call on

E. E. MOORE - COMPTON, CAL.

Must be Sold by January 1st, 1906

Having sold my ranch, I am forced to sell 40 head of Registered and Grade Jerseys. Ten registered cows, milking now; 4 young heifers, eligible; 8 bulls, registered or eligible; 18 cows and heifers, pure bred and grade, not eligible. This herd represents some of the best blood on this coast. Parties wishing to see the stock can take Santa Ana electric car and get off at Hansen. Station is right at the ranch.

W. J. Cole, R. F. D. 1, Anaheim, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***if not the best*** sire on the coast. Several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***

C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

leads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

VENADERA HERD

OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write

GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD

JEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT FOX," 64833. Bred in the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the Island has ever produced."

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of Imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.

H. N. WILLIAMS COMPTON, CAL.

La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.

Also a fine Registered Jersey Bull and Six Registered Cows for sale.

Write for what you want.

J. A. CAMPBELL, Buena Park, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

HEN HOUSES.

There are so many people going into the poultry business in So. California that a little study of the subject of hen houses may be helpful. I have just received the following letter from one of our subscribers, and I think a discussion of his plans may help others.

I have within the past two months been starting and arranging a "chicken ranch." Have new location and everything is new, including my experience in the business. I want your advice as to my way of constructing hen houses. I have put up for the matured stock houses 5x10 feet, cone roof, all covered with shakes. These houses are open at bottom all the way round for a space of 24 inches from the ground. This space is enclosed with 24 inch chicken wire. The roosts are placed about 12 inches above the lower edge of the enclosed part. There is no floor to the houses, thus the fowls roost on perches three feet from the ground, and there is a free circulation of air underneath them. In these houses I keep Leghorns. Do you think such a house adapted to the fowls' needs. I have had considerable criticism that they were too open, but as the house is pretty closely built I have thought that no real draft of air would reach the fowls, and as it is arranged to open up one entire side, cleaning can be done easily and thoroughly. I have other storm and wind breaks provided and for growing chicks have close houses with floor.

Now before answering him, or dissecting his houses, let us consider why in this climate of sunny California, this lovely climate, why do the hens need any shelter? Why cannot they sleep out, roost in the trees, and so save the expense of building houses and cleaning them? Because in this part of California a cold breeze always springs up at night, blowing in the opposite direction to the day breeze. The hen goes to sleep at sundown, facing the day breeze, and when the night breeze comes up she either has to wake up and turn round (sometimes so sleepy that she falls off her roosting place), or she is chilled by the wind blowing under her feathers for nearly eight hours. Then again, in trees there is but little shelter from the rain and fog and when we do have rain it is usually heavier at night than at any other time. I know three different poultry breeders who tried the tree roosting plan. It did fairly well in the early summer, but as the nights lengthened, roup commenced. Two of these parties went out of the chicken business, declaring there is no money in it, and the third party made small but comfortable coops. These three had their hens infested with lice, some of the fowls roosted so high in the trees they could not be caught to dust them or dip them for lice, others roosting lower were caught by wildcats or night prowlers, and one lady lost all her white fowls by two-legged thieves riding on horseback under the trees. They saw the white hens and reaching up took sixty of her choicest pullets one dark night.

* * *

Houses of some kind are a necessity but how to build them is the conundrum! It is almost as difficult to give advice about building a house for hens as to tell a man what kind of a house to build for himself, so difficult that I refrain from doing it as a rule, but I am willing to criticise in a very friendly way the house our subscriber describes, and I will also tell of some of the houses that I have used for my hens, especially some that have proved good.

The first and greatest requisite in any hen house is proper ventilation without any draft. Freedom from drafts is absolutely necessary, especially in this climate. We all know how human beings suffer from sitting in a draft; it is exactly the same with fowls. The poor things suffer terribly, yet patiently, when they have swelled heads, running from the eyes or nostrils, and finally roup. I quite believe roup to be a germ disease and the germ finds a place to germinate in a fowl that night after night is forced to sleep in a draughty house in So. California, or anywhere else. It is so easy to be careless in this matter. One year early in the fall an expert poultry breeder called to see me, a good many years ago, and with the quick eye of experience he remarked that some of my cockerels had slight colds, and saying, "There must be a draft in your hen coop." He went down on his knees and discovered where the boards had dried out and a crack had come. I too went down on my knees, found every knot hole or crack and battened them up and in a few days had no more colds among the cockerels. No drafts, but perfect ventilation is what we need in this country.

I have for many years advocated and used the "Mushroom" houses, which are what our subscriber rescribes; a small house standing up from the ground so that it has perfect ventilation without draft. A house of this kind never has a bad odor of a morning for the air passes over the droppings and the effluvia is blown away. Twenty-four inches of ventilation is in my opinion, more than necessary and necessitates making the perches or roosts too high, unless the fowls are Leghorns.

A heavy American breed of fowl would risk bruising its feet and getting "bumble foot." One only drawback to "Mushroom" houses is that if the hens are confined in them after they jump down from the roost they are apt to take cold from being in a draft. One has to be an early riser to be up when the hens come down, or else leave a trap door open so they can get out, and risk night marauders.

The "Mushroom" houses can be made of shakes, flooring, canvas, burlap or common domestic. They all answer well, but of course, the wooden houses last much longer than any others.

* * *

The house that I prefer above all others for this climate, is one built of wood (shakes or tongue and grooved), perfectly tight on three sides and roof and on the fourth side only closed with chicken wire for summer and a curtain of burlap to be let down over the wire in rainy or stormy weather. This is an admirable house, also, for a hen and brood of chickens, and I never have a sick chick or any colds in my family in these houses.

The thing of all others to be avoided is a draft. Never ventilate by an opening above the fowls or in the roof, the foul air is heavy and sold and it falls, the pure air is lighter and warmer, and by having the ventilator high it makes an upward draft, carrying off the warmth, and chilling the fowls.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL

BUFF LEGHORNS
A few cockerels for sale. After Jan. 1 eggs from choice mated pens, $1.25 per 15
Chas. G. Miller, 40 Elm St., Watsonville, Cal.

Single Comb White Leghorns
Thoroughbred Stock. Eggs, $1.50 per 15. Send for illustrated catalogue.
John P. Boden, 138 Second Street, Watsonville, Cal.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred **BLUE ANDALUSIANS**
Eggs, $2.50 and $3.00 per 14 Exhibition and utility stock for sale 132 Ave 32, Los Angeles, Cal.

BARRED ROCKS, WHITE MINORCAS, INDIAN RUNNER DUCKS AND WHITE HOLLAND TURKEYS
Prize winning birds at Central California Fair, where 7 firsts were won in '05.
JOE McDONALD, R. F. D. 2, HANFORD, CAL.

Choice Alfalfa or Chicken Ranch
Twenty acres good sandy loam soil, no alkali, abundance of water, 5-room house, large barn and incubator cellar. Near Anaheim.
WM. A. GREEN, BOX 401, ANAHEIM, CAL.

HIGH-PRICED EGGS
Every one would like them to sell, and can just as well have them. Security Poultry Food will make hens lay. WE GUARANTEE IT. Ask our dealer in your town. He will back our guarantee.
Security Stock Food Co. Minneapolis, Minn.

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

Walnut Grove Poultry Ranch
Standard Bred White Wyandottes, (Hay's strain). Eggs for hatching from carefully mated stock, $2 per 13; $12 per 100.
F. L. Hogue - Carpinteria, Cal.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:
Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."
WRITE FOR CATALOGUE 47—A BEAUTY
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

Eggs

This lady knows how to make cold weather layers.

"I gave my hens Prussian Poultry Food and every one is astonished at the large number of eggs I get. In fact, I am about the only one who does get any eggs here this cold weather."
Mrs. N. R. Abernethy,
Batavia, Ill.

PRUSSIAN POULTRY FOOD

supplies the needed egg making material. It promotes the growth and health of fowls and is the most dependable cure known for CHOLERA, ROUP, GAPES.

Packages, 25c and 50c.
25 lb. Pails, $3.50.

Prussian Lice Killers will rid your flock of vermin. Liquid, 50c and $1.00. Powder, 25c and 50c. "Poultry Profits" Free. 36 page book of advice on care and feeding. Write for it and tell us what stock of all kinds you own.

Prussian Remedy Co.,
Dept. B. St. Paul, Minn.

GERMAIN SEED COMPANY
California Agent - Los Angeles, Cal.

Breeding Cockerels

WHITE LEGHORN BLACK MINORCA

One hundred. Good Stock. A few pens of choice stock for sale. Write for prices

Avenue Poultry Yards Ventura, Cal.

CHOICE POULTRY RANCH FOR SALE

Outskirts thriving town Corning, Sacramento Valley. Ten acres, nice creek, fine shade, best water, new dwelling, barn, chicken houses, excellent well, windmill, large iron tank. Four acres alfalfa. Hog pastures fenced. Plenty good garden and orchard land. Ideal for poultry and stock. $100 down, or ce $165.
OWNER, P. O. Box 174, Corning, Cal

1 Cyphers Incubator For Sale Cheap

Takes 400 eggs, good as new, only $30.00. 20 rods of heavy chicken wire, 6 ft. wide, $10 00

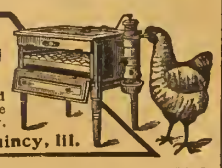
J. F. Brown, Compton, Cal.

Single Comb White Leghorn Cockerels For Sale

A1 Stock, Standard Bred. Address

A. H. BLAKELY - ONTARIO, CAL.

$12.80 For 200 Egg INCUBATOR



Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.

GEO. H. STAHL, Quincy, Ill.

WHITE LEGHORN CHICKS, 10 Cts.
WHITE PLY. ROCK CHICKS, 12½c.

Both from good stock and in good healthy condition. The W. P Rock males where I got my eggs are from prize winning stock. Leghorns are selected and have good markings. This is a fine time to start young chicks, after the rain; yards purified, green growth coming and mites and lice at a disadvantage.

Wm A. Green, Box 401, Anaheim Cal.

ALBERS' BLACK MINORCAS

Still Lead

——Circular Free——

GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL

Mountain View Poultry Ranch

S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.

Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.

Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

30 DAYS TRIAL

Buy From Our Factory—Save One-Third.

PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE

Cal. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

The comfort of the fowls is largely to be considered in building their house. The three essentials of egg production are comfort, exercise and proper food. We want to make our fowls so comfortable, with such sanitary measures that they cannot help giving us a good return of eggs. Houses need not be expensive and ornamental unless one has ample means to justify the outlay, but they must be comfortable. In laying out a place as our subscriber writes, it looks well to have the houses all the same size, the nests all alike, scratching sheds also, and even the troughs or hoppers and the drinking vessels all uniformly similar. This gives an air of prosperity and thriftiness to the whole place, and does not cost much more. Neatness and order in the poultry yards will make more sales than anything except fine birds, and even the beauty of fine birds is enhanced by good surroundings.

SILVER PENCILED WYANDOTTES.

"It is surprising to notice," says the Country Gentlemen, "the strides forward being made in the Standard breed of Silver Penciled Wyandottes. and the non-standard breed of Silver Penciled Plymouth Rocks. Both of these have the markings of the Dark Brahmas, one of the best egg-producing breeds that ever were, and the Wyandotte blood coming from the original or Silver Penciled Wyandottes. The Silver-Penciled Wyandottes have won the egg-laying contest in Australia for two years. The Dark Brahmas are wonderful egg-producers. The union of these two created both the Silver-Penciled Wyandottes and the Silver-Penciled Plymouth Rocks. The careful cultivation by best breeders of poultry has gained best color and markings upon these two varieties than have ever been successfully bred in the Dark Brahmas. The Silver-Penciled Plymouth Rocks are large, beautiful-colored birds, and are great egg-producers."

AVOID CHANGES.

Every poultry breeder knows, or ought to know, that sudden changes are undesirable for his stock.. Yet very many, influenced by mistaken kindness, which more honors their hearts than their heads, will, upon the advent of cold nights, suddenly and without previous preparation, remove their feathered flocks from surroundings where they have enjoyed an abundance of pure air and ample room, to the confinement of tight houses where both space and air are limited. The result almost inevitably is that the fowls droop, sicken, become unprofitable and unsatisfactory, and not a few die. The sudden change upsets their digestion and impairs the oxidation of the blood. Diarrheal and lung troubles follow; colds, swelled heads, roup and the like are contracted; growth ceases or progresses slowly, and egg-production diminishes or stops; profit turns into loss, pleasure into disgust.—Country Gentleman.

Many people have been quite successful in the past few years in growing White Holland turkeys. The indispensable requisite for success with White or any other variety of turkeys is to have strong, vigorous, not less than two-year-old females, mated with fine toms of foreign blood. Inbreeding must be absolutely done away with to be successful in growing turkeys. Diseases, so destructive in the past, can be driven out through the selection of strong females and absolutely non-related males.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

No more stock for sale. Eggs are running 80% fertile. I am booking orders for future delivery, also supplying small orders on short notice. Get your orders in early, as there is going to be a big demand this season.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

Mission View Poultry Ranch

MY SPECIALTIES:
WHITE WYANDOTTES
¼ WILD MAM. BRONZE TURKEYS
BUFF COCHIN BANTAMS

The original Adobe Incubator, capacity 3000 eggs. Adobe hut and cold brooder 360 feet long.

Mrs G D. Hubbard, Box 422, San Fernando, Cal.

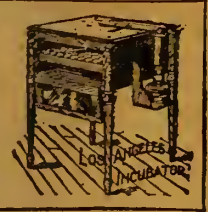
SUCCESS SEND FOR CATALOGUE

IS ATTAINED WITH

LOS ANGELES INCUBATORS

LEE'S LICE KILLER EGG MAKER | LARGEST POULTRY SUPPLY HOUSE IN THE U. S.

HENRY ALBERS 315 S. MAIN ST. LOS AGNELES



For Incubators and Brooders

Write Wm. B. Dean, 2509 Central Ave., Los Angeles. It will pay you.

EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. **GLENDALE, CAL.**

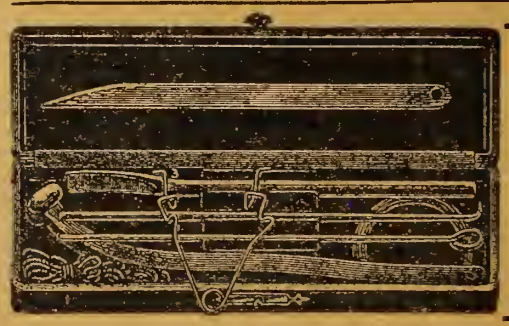
Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations

Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.



Caponizing Set

Double Your Profits by Caponizing.

Complete with Instructions, $2.50, Postpaid

STOCKMEN'S SUPPLY CO.
FRESNO, CALIFORNIA

COCKERELS PULLETS AND HENS

From Well Bred Stock to be obtained from the

El Oro Poultry Farm, Fresno

Ranch grown, healthy stock at Popular prices.

WHITE AND BROWN LEGHORNS,
BLUE ANDALUSIANS,
BUFF, WHITE AND BARRED ROCKS,
BLACK MINORCAS,
BUFF COCHIN BANTAMS,
WHITE PEKIN DUCKS,
BUFF ORPINGTONS,
MAMMOTH BRONZE TURKEYS

My stock is bred for size, color, shape and egg-laying qualities.

H. H. Holland, Fresno, Cal.

EDITOR'S QUESTION BOX.

Mushroom House.—(F. E. B., San Jose). I am told that there is a poultry house made of canvas with a shingle roof in use at Rosecrans, or some such named place, somewhere between Los Angeles and the Coast. It is said to be tipped up during the day so that the ground can be cleaned. Can you tell me if such an house is used and if it is successful? If same is successful there could we use it here? I did not learn where the hens have nests, nor do I know whether growing stock or laying hens are housed therein.

P. S. I very much appreciate your article in your letter of Sept. 20th. It was helpful.

Answer.—See article in this paper on hen houses. These houses are used in many places and are very satisfactory. The hens have nests outside and away from the houses.

* * *

Who Has These.—(J. A. W., Hanford). Kindly inform me who has the thoroughbred Embedden or Bremen geese for sale.

Answer.—I do not know of any. Shall be glad if any of our readers can answer this.

* * *

Lice.—(Mr. E. M. Campbell). When we moved on to this place a few months ago, we found there were mites on the roosts. We used both whitewash and crude oil and got them clean, and yet the chickens pick themselves all the time and on close examination I find they have lice. Can you tell me how to get rid of them?

Answer.—Make the following: Dissolve a bar of laundry soap in a gallon of coal oil and one pint of crude carbolic acid, churn these together until cold. Take one quart of this mixture and put into ten quarts of warm water. Wash the hens thoroughly in this, soaking every feather to the hen's skin. Pull out all feathers that have nits (lice eggs) on them. Do this on a warm, sunny morning. Examine in a week and if there are any lice repeat; or you might after once dipping your hens powder them thoroughly once a week or oftener with Lambert's death to lice. Paint the perches once a week with Lee's lice killer, but do not put it in the nests. It will flavor and spoil the eggs.

* * *

Sick Turkeys.—(Mrs. J. A. Corning).—I have read so many helpful things in the Cultivator that I thought I would ask for some help for my sick turkeys.

About two or three weeks ago one of my largest turkeys seemed kind of droopy and in a day or so it could scarcely walk. I examined it, but could not see anything wrong with its feet or legs, but in another day or two I noticed a slight swelling in the joints of its legs. I rubbed them with camphorated oil but it rapidly grew worse until it could not walk at all. Its appetite remained fairly good. I gave it sulphur in mash, but about two weeks after it took sick it died. Now there is another going the same way, only the trouble seems to be in its feet instead of the leg joints. Will you please tell me through the Cultivator what is the trouble, and what I can do for them. I feed turkeys a mash in the evening composed of Coulson's food and bran. Wheat in the morning.

Answer.—Your turkeys have rheumatism. I wish you had mentioned either their age or weight, so that I could prescribe more easily for them. If they weigh eight pounds or over, stop giving a mash; feed whole grain and add corn or kaffir corn. Also either good meat scraps or curd of milk, and give each turkey a liver pill, any that you use in your family.

Bathe the feet or legs with the following: One cup of turpentine, one cup of vinegar and as much saltpetre as it will take up, about a tablespoonful. This is a great relief to rheumatism in the human family also.

Chopped onions and dry bread crumbs for young turkeys, but no mashes. The livers of your turkeys are not in good working order and rheumatism has resulted.

* * *

Wyandottes.—(W. H. S.), Santa Barbara, Cal.). Will you kindly tell me what strain of White Wyandottes are considered the best layers? And where can I obtain them?

Answer.—There are several strains of fine Wyandottes advertised in the Cultivator. Mrs. C. D. Hubbard (see her ad.), has for years selected eggs from her best layers and has now a flock of remarkable layers, developed by careful breeding and close culling.

* * *

Imported Pullet Dead.—(A Subscriber, Oxnard, Cal.). Please refer these poultry questions to your efficient editor, Mrs. Basley: One of my Orpington pullets, shipped out from the East three weeks ago, died without apparent cause. Upon examination I found crop empty, gizzard full of grains, with little grit, and intestines empty; hen was quite fat and had two eggs developed to the size of dove eggs. Comb was pale ever since I received her. I find my fowls have too loose droppings, almost diarrhoea, I fear. I feed in hoppers two parts dry bran, one part corn meal, 1 part Swift's beef scraps, in addition I feed two parts wheat, one part cracked corn, 1 part oats, 1 part crushed barley in litters. They have the very best of accommodations, with pure water and their grit consists of river gravel, laying scattered in their pans. Your instructions of charcoal, shells, exercise, ventilation and cleanliness carried out; positively no lice. Please put me on guard as to trouble that I may not lose more. (2) Is river gravel all right for grit? I wish to add, I fed mangled wurtzel beets for green food to the above hen.

Answer.—Your imported Orpington pullet was evidently (judging by her comb), not in vigorous health when you received her. It has been found that a change of climate will sometimes develop any latent disease in a fowl. Liver complaint, I think, was probably the cause. Did you notice particularly the liver; was it of the proper color, or too light colored. Was it tender or brittle, or spotted?

The gizzard having but little grit in it indicates indigestion; also the looseness in the bowels of your fowls. I would suggest your not mixing the beef scraps in the bran and corn meal, but putting it in a separate hopper as you do the charcoal, etc. Also carefully examine the beef scrap, keep it dry and never feed any mouldy grain or food.

River gravel is usually not sharp enough for good grit; it has been worn smooth by the action of the water. You can test your fowls by pounding up some broken crockery to about the size of a split pea. If they eat it with avidity you may decide that the river sand is not sharp enough. Another reason for the need of supplying other grit is that if your fowls have been for any length of time on the ground they have probably picked up all the sharp bits of stone and those that are left are not sharp enough to grind their food. A bit of grit should have three sharp sides to it. This is quite an important matter.

POULTRY SUGGESTIONS.

Late hatches should have dry,,warm houses in the cool weather. They are very susceptible to cold and need a dry, sheltered loafing place on cold, wet days, as well as a warm place to sleep at night. Many a siege of roup can be traced to a bunch of poor, neglected, late hatched chicks. When debilitated by exposure to cold and wet they take cold easily, and colds are very apt to develop into roup, the disease that has spoiled the shining prospects for many a poultry raiser. Hens will run with fall chicks until half grown. They seem to know their overgrown babies need plenty of warmth. The old hen method is the best if we want a few Christmas fries.

When other duties on the farm are crowding and something must be slighted it is apt to be the chickens. Whether we keep common mixed chickens or high priced pure breeds we ought to think enough of them to do the best we can by them in the way of comfortable houses for winter. Our houses are built as close to the ground as possible with good drainage. Cold air circulating under the floor is not good, and the higher a house is from the ground the colder it is.—Fannie M. Wood, in Successful Farming.

DON'T FRIGHTEN HENS.

If you expect your hens to lay regularly you must treat them kindly Never scare them nor chase them. When handling them exercise care to be gentle. Do not hurry in caring for them either in feeding or dusting.

Prussian Lice Killer

Easy, quick and certain riddance of vermin on poultry and animals.

Can't Get Along Without It.

"I am using the Prussian Lice Killer and could not possibly get along without it. Keeps the poultry house and chickens free from lice and mites. I have used other makes, but Prussian is the best." Fred Fiesel, Wilmington, Cal.

Prices: Qts. 35c, ½ Cal. 50c, 1 Gal. 90c, 5 Gals. $4.00.

Prussian Lice Powder

The dust method. Sure death to lice, no injury to birds or animals.

"I used a 25c package of the Prussian Lice Powder on 16 head of lousy cattle, and the day after could not find a louse. I consider it the best thing I ever saw." H. V. Spafford, Kelso, N.D.

In 25c and 50c Packages.

Prussian Poultry Food

Guaranteed to produce healthy fowls, more rapid growth, make better layers and to ward off and cure Roup, Gapes, Cholera, etc.

"We have used Prussian Poultry Food for more than two years with great success We find that it is the proper food for young chicks and just the thing to keep up laying hens." Arnold Jungman, Poultry Yds, Gladstone, Minn.

In 25c and 50c Pkgs. 25 lb. Pail, $3.50.

"Poultry Profits," 36 pages, to poultrymen free, if you write us what stock you own.

Prussian Remedy Co., Dept. B, St. Paul, Minn.

GERMAIN SEED COMPANY

California Agent - Los Angeles, Cal

LINDGREN BROS. KINGSBURG, CALIFORNIA McPHERSON, KANSAS

BUFF LEGHORNS BARRED ROCKS

Prizewinners at Chicago, St Louis, San Francisco and majority of prizes at Portland on Buffs Choice Cockerels and Pullets for sale.

RHODE ISLAND REDS

Fine large stock, heavy layers, best of broilers Eggs, $1.50 per setting.

J. D. Setzer, Northrup and Pedro Sts., San Jose, Cal.

Eggs For Sale

Imported direct Indian Runner Ducks, prize winners in England. First prize winners at Hayward, Sacramento and Portland Lewis & Clark Exposition. Eggs, $3 for eleven. Buff Orpington Ducks, prize winners.

Mrs. M. E. Plaw - Fruitvale, Cal.

WILLARD POULTRY FARM

MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.

At the Last Los Angeles Show Our Birds Won Twelve Prizes.

Wh. Minorcas, Wh. Wyandottes and Indian Runner Ducks

Duck Eggs, $1.00 per 13, $3 00 per 50, $5.00 per 100. Ducklings 10 days, old, 25c each. Ready now.

SQUAB BREEDING

and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.

THE OLIVE PIGEON LOFTS

P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS

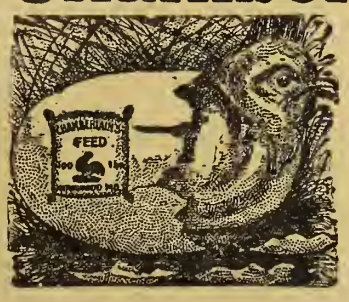
EXCLUSIVELY

Send for 16-page 1905 Catalogue

H. R. CAMPBELL

Box O PETALUMA, CAL.

Chamberlain's Perfect Chick Feed



World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. **LOS ANGELES, CALA.**

SPECIAL PRICES ON TON LOTS.

Distributing Agents: FREDERICK BROWN, San Jose; CHAS. H NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.

When writing advertisers mention Cultivator.

General Agricultural Notes

CAMPBELL SYSTEM OF DRY FARMING.

Mr. Campbell's principles, as he explains them, are:

First—Catch the rainfall and store it where the roots of the plant can reach it.

Second—Keep the soil always fine and loose.

Third—Have a firm, solid foundation under the soil—a bottom to hold the water.

The careful regular application of these principles in farming will produce at least three times the results of ordinary farming, and often four and five times the results.

Store the rainfall in the soils, by keeping the surface of the ground always loose, which stops evaporation. It is impossible for moisture to rise to the surface through loose soil, and that leaves the ground in the best condition to receive the next rainfall. Thus you can make fourteen inches of rain go as far as twenty-five or thirty inches in raising all kinds of crops, plants or trees. We do not lose any of the rains—we have the full benefit of it. We keep it stored where the roots of the plants can reach it when they need it.

Stir the soil with a revolving disk and then going over it again and filling up the furrows. We call this "double-disking." It pulverizes the soil and levels it off. We keep going over it again and again. After every rain we stir up the soil, either with a disk or an "Acme" harrow. Finally we plow seven inches deep in the ordinary way and follow the plow with a subsurface packer—a machine which makes a compact, solid bottom, four inches from the surface, under the loose soil. Then we go over it again with the Acme harrow so as to keep the top soil loose and pulverized. After working the soil for a year in this way, by what we call "summer tilling," we put in our wheat, either in the fall or in the spring, as is usual. The first year we do not put in any seed. We simply keep stirring up the soil so that it will remain loose and pulverized, and after one year of this sort of cultivation three crops can be grown in succession without renewing the tilling.

PERCOLATION OF RAINS.

In a bulletin on the above subject, the author records the results of observations on the rate of percolation of water through sandy loam, loam, clay loam, heavy clay soil, and garden soil which had been subjected to prolonged drought. For the purpose of the observations the soils were packed in glass tubes 13⅜ inches in diameter and water was poured on them from time to time in amounts equivalent to 0.1 to 1 inch. The slowness of percolation in case of the clay soils indicates that with such soils more than 50 per cent. of the rainfall (the proportion given by Lawes and Gilbert) would be lost by evaporation and surface drainage.

EUCALYPTUS FOR FIRE SCREENS.

A note in the Indian Forester states that in Cape Town, South Africa, six rows of eucalyptus planted six by six feet are placed around plantations, etc., and within five or six years they form a barrier which no fire can cross, since they kill out all the grass completely and at the same time prevent burning leaves, etc., from being blown across.

ALKALI SOILS.

A late bulletin gives a summary of investigations on alkali soils in Montana and elsewhere, largely from a previous bulletin of the station (E. R. S., 11, p. 223), and reports results of pot experiments with alfalfa, oats, wheat, barley, and timothy on soils containing varying amounts and combinations of alkali salts. Analyses with reference to chlorin, sodium sulphate, and sodium carbonate of 358 samples of alkali soils from different parts of the state are reported. No data are reported for the experiments, but the following summary of general results is given:

"The presence of magnesium sulphate—Epsom salt—in quantity up to 1 per cent has apparently no ill effect upon the growth of alfalfa.

"The limiting quantity of sodium sulphate—Glauber's salt—for alfalfa seems to be about seven-tenths of 1 per cent.

"With a mixture of two-thirds sodium sulphate and one-third magnesium sulphate, which represents very closely the comparison of Montana alkali, the limiting quantity appears to be about the same as with sodium sulphate alone.

"It should be said that these experiments were conducted with great care, the purpose being to eliminate every adverse condition except that imposed by the presence of the 'alkali.' Especially was it provided that a sufficient quantity of water should always be present.

"In this connection it may be stated that the presence of alkali was observed, in another series of experiments, to very materially increase the drought-resistant powers of the plants under investigation.

"The results of experiments with oats, wheat, barley, and timothy tend to show that the danger limit for alkali of the character found in Montana is above 1 per cent."

POTASH NECESSARY FOR CORN.

The soil tests with corn have now been in progress in Massachusetts for sixteen years, and during this time the land has been in corn eight years and in grass four years. Corn was grown in succession the last three years, and the past year was excellent on all plats receiving potash every year. The plat receiving muriate of potash alone continuously yielded forty-seven bushels per acre, and the one receiving dissolved boneblack in addition yielded fifty-three bushels, being a better yield than was obtained on the plat treated annually with five cords of barnyard manure per acre. The importance of a liberal supply of potash in fertilizers for corn is pointed out by these results.

POTATOES LIKE NITRATE.

Potatoes grown this year in connection with comparative test of different sources of nitrogen, on the basis of yield secured the materials ranked as follows; Barnyard manure, nitrate of soda, dried blood, and sulphate of ammonia. Based on the increase in all the crops since the beginning of the experiment, as compared with the check plats, the relative rank of the different fertilizers was: Nitrate of soda 100, barnyard manure 83.6, dried blood 66.9. and sulphate of ammonia 56.9. The growing of soy beans has so far shown but little effect on the succeeding crop.

GAYULE AND ITS ECONOMIC IMPORTANCE.

In a German bulletin a description is given of the guayule rubber plant (Parthenium argentatum), which grows wild in Mexico and which is being harvested and used commercially for the production of rubber.

The methods of extracting rubber from this plant are briefly described and the possibilties of the industry discussed. At present the dried plants bring from $30 to $40 per ton. Recently methods for manufacturing the rubber from the plant have been so improved that besides the water content of the rubber there is but from 10 to 15 per cent of foreign substance. The dried plants furnish from 8 to 12 per cent of rubber, depending upon the amount of moisture which they contain.

The plant grows very slowly and after it has once been cut off requires about ten years to again reach suitable size for cutting. These calculations give an idea of the extent of land required to make the growth of this plant profitable commercially.

Some of the advantages are that the plant will grow on very poor and dry land. It grows best in a subtropical climate, which is of advantage from the standpoint of labor, and is not injured by night frosts. The crop can be worked up at any time during the year. In districts suited to its culture it is believed that the crop can be grown profitably, especially if culture and manufacture are combined.

The San Diego County Poultry Association will hold its annual show December 13, 14, 15, 16. The premium list is at hand and contains several valuable suggestions in relation to the exhibit.

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

Toulouse Geese

75 head of Fine Stock to select from. Write H. O Higgins, Box 741, Riverside, Cal.

WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

WOODMANSE STEEL WINDMILL

BEST MILL ON EARTH

On account of its removable bearings will pump more water than any mill on earth.

F. H. OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

Ranch for Sale

To close an estate, we offer 33 acres near Compton, for sale. Choice Alfalfa land. Best artesian well in that section. Water to sell. Address

Phone Main 922 *C. F. LEE, Pasadena, Cal.*

Make Your Own Fertilizer

at Small Cost with

Wilson's Phosphate Mills

From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue.

WILSON BROS., Sole Mfrs., Dept. Easton, Pa.

THE RAPP FENCE

The Most Practical, Durable and Lowest Priced Fence on the Market.

THE ROEBLING CONSTRUCTION CO.,

Broadway and 23rd St., New York

Write for Illustrated Booklet

A Sharp Razor

Makes Shaving Easy

It is a pleasure to shave when your razor is sharp. With "Every Man's Dry Hone" you can give your razor a keen cutting edge with a few strokes. It is a perfect hone, made for home use, and guaranteed to give satisfaction or money refunded. No water or oil necessary—self lubricating. Always ready.

Mailed on receipt of $1.00. Send in your order now, while you are thinking about it. Be ready for your next shave.

REDLANDS HONE CO. 70 Orange St., Redlands, Cal.

THE OLD ESTABLISHED

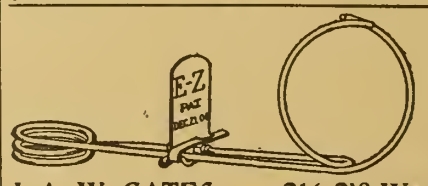
WOODBRIDGE FERTILIZERS

ARE RELIABLE

THE WOODBRIDGE CHEMICAL WORKS

318 East First St.
Los Angeles, Cal.

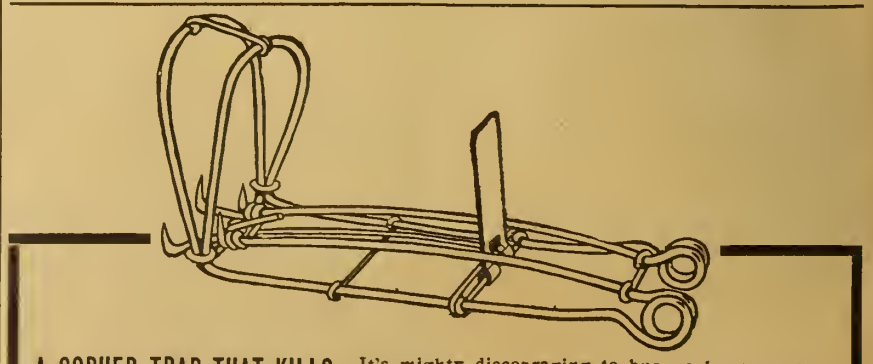
South Pasadena San Bernardino



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.



A GOPHER TRAP THAT KILLS. It's mighty discouraging to buy gopher traps that permit the gopher to escape after the trap has sprung. If you have used other traps you know that gophers crawl or are thrown out of them and the gopher that has been caught and got away will never be caught again. If you would take no chances with traps, you should investigate the merits of the

IMPROVED C. V. 2-RING GOPHER TRAP.

This is a patented trap, embodying all the latest improvements. It is superior to the Single ring, as well as the Clutch and Claw Traps, or the double ring disables the gopher and holds it securely, allowing no possibility of escape.

See that you get the genuine Improved C. V. 2 Ring. Sold everywhere for 25c; or if your dealer does not have them, send us his name and 25c. for sample trap or $2.50 for a dozen, which we will forward postpaid. FALLS MFG. CO., 14 Drumm St., San Francisco.

Queries and Suggestions

PERSIMMONS AND ROSES.

Editor Cultivator: (1) Can the Japanese persimmon be successfully grafted or budded onto the common Missouri persimmon?

(2) How long will it take rose cuttings put in the ground now to take root?—J. A. D., Charter Oak.

(1) Certainly.

(2) They will root in a few weeks, but should not be moved until spring. Better still is it to leave them where they root until next summer, let them get dormant toward autumn, replant where needed and water well.

SALT BUSH HEDGE.

Editor Cultivator: I've just read with interest an article in your paper of first inst., about the hedge plant "Atriplex Breweri." Can you please tell me where I can get seed cuttings or young plants from, also about how long a time it would take to grow, say five feet high. I need a good wind break and something that will grow very quickly. Do you know of anything more suitable. Do the roots of this plant extend far out.

I enclose addressed envelope. An answer will greatly oblige. E. S. L.

Answer.—Saltbush for hedges (Atriplex Breweri) may be obtained from any dealer in ornamental stock advertising in this issue. It makes the best of hedges, especially at the seaside, and roots very lightly. It would take a little more than the first summer to make a hedge of four fect as you would need to keep side growth trimmed off to throw the energy into the heightening growth.

ORCHARD QUERIES.

Editor Cultivator: (1) What solution is best to be used to spray peach and fig trees and at what time, so as to keep different insects off which come upon them during fruit bearing time? (2) When is the best time to bud or graft orange trees, also to prune peach trees? (3) And when is the best time to plant orange trees? R. B., Reedley.

(1) If during winter, when the trees are out of leaf, use lime, sulphur and salt. If trees are in leaf use kerosene emulsion. The most common trouble with peaches is leaf curl, and figs are seldom subject to insect attacks. (2) See query department of last week. (3) Feb. 1st.

SICK CITRUS TREES.

W. W. S., Campbell—We cannot prescribe for your trees without more definite information. Leaves turning yellow might arise from a score of causes, and we can tell nothing about the leaf-eating insect unless we see it, or have a good description of same.

DIVIDING RHUBARB.

Editor Cultivator: Will the Cultivator give directions how to divide a rhubarb plant for new settings. Do you have to dig the old plant up? I have 100 Crimson Winter rhubarb plants and wish to plant more from them. H. E., Rivera.

Take them up and cut to pieces so that each piece has at least one "eye" or bud.

COMPTON INSTITUTE.

The people of Compton and vicinity will hold a Farmers' Institute at Compton Monday and Tuesday, December 18-19. Among the principal addresses will be: Walnut culture, J. B. Neff; Tuberculosis, Prof. E. W. Majors; Future of the Dairy Business, C. H. Sessions; Poultry, Mrs. A. Basley; Trees, Shrubs and Plants, Ernest Braunton; Apple Culture, Frederick Maskew; Sugar Beet Culture, J. L. Amlin; Good Roads, Col. J. J. Steadman; Proper care of Milk and Premises, Prof. Majors.

OLD INDIAN FASHIONS.

The American Indians used to grind their corn by pounding it between two stones. This work fell to the woman. An up-to-date farmer would laugh at such an old-fashioned mill—would not have such primitive methods on his farm. Indians had no way of skimming their milk except to let it stand in something until what cream would rise came to the top. The women did the skimming as well as the milking. Of course, they lost sometimes as much as half the cream by such unscientific method.

Some of the very farmers and dairymen who would laugh at an Indian mill are skimming their milk—and losing half their cream—just as the Indians did. Modern methods of skimming are as far ahead of the old method as modern mills are ahead of Indian grinding stones. The up-to-date skimming machine is the Sharples Tubular Cream Separator. It often doubles your dairy profits—skims the milk as soon as drawn from the cow—leaves fresh warm skim milk for young stock—requires that only the cream be put away. In use from Maine to California—and far ahead of pans or cans. Ask the Sharples Separator Company for their plainly written, fully illustrated catalog No.—. Address them at West Chester, Pa., or Chicago, Ill., or Toronto, Can. They have large offices at each place.

The David Bradley Manufacturing Company's corn growing contest, mention of which was made in this paper a few weeks ago resulted in a very interesting contest in which seventy-five of the leading farmers, residing in the eight counties comprising the fair district, competed. The decision of the judges was very satisfactory and all look forward to the opportunity of competing again next year. The result of the water melon seed guessing contest held at the Bradley Manufacturing Company's exhibit at the Springfield fair created considerable interest. There were 2893 guesses registered and these were decided by putting the number in a box and drawing the winner that way. The number of seeds in the melon, which was 1190, was guessed by Mrs. R. B. Hope of Roseville, Ill.

Oscar J. Weber who for the past seventeen years has been the manager at Los Angeles for the Wickson & Co. dairy supply house, has severed his connection therewith and is succeeded by T. L. Garner, who has been with the house for over a year. Mr. Weber is secretary of the Los Angeles Milk Board of Trade and also serves the Butter Board of Trade in the same capacity. During the long term that Mr. Weber has been catering to the dairymen of Southern California he has made many friends who now wish him success in the new venture he has under consideration, and he says his friends will hear from him in the course of a month.

SOME PETALUMA INCUBATORS.

A look at the Petaluma Incubator factory shows a most busy scene, machines in all stages of construction and many more finished and ready for shipment. A shipment of 400 was recently made to Australia, 200 to Sidney and 200 to Melbourne. Another shipment of 400 has been made to the Indianapolis house of the company.

IsHard, Round and Sweet= Lilly's Glory Cabbage

We perfected this variety on our own experimental grounds, and it has proven a wonderful success, pronounced without a doubt the best cabbage for this coast. It is as hard as the Danish Ball Head, and has an even more perfect roundness. It matures in mid-season, earlier than any other hard, round cabbage. In quality it proves most excellent, tender and crisp. This cabbage is destined to be the most popular variety on the coast. For market purposes it is unexcelled. It is a ready seller and it is so good that a profitable trade can be built up for it. We advise all our customers to try this cabbage. Sold only in sealed packages. Price, pkt, 10c oz., 35c; lb., $3.50.

Write for new 1906 catalog of Lilly's Northern-Grown Seeds. Use coupon.

LILLY'S BEST LILLY'S BEST

CUT OUT and mail to CHAS. H. LILLY CO. SEATTLE, WASH.

Enclosed is $.....in (money order, draft, 2c stamps) for which please send me .....packet, ...ounces,.....lbs. Lilly Glory Cabbage Seed Charges prepaid.

Name .....

Address.....

R-12

Now Is the Time to Look Over Your Old Plows

Consider them worn out. Come in and see our line of Syracuse Goods, consisting of Syracuse

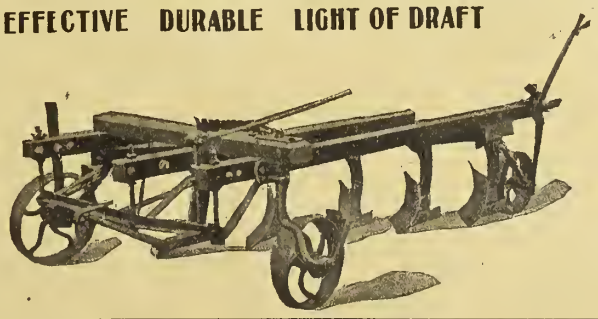
Disc Plows, Solid Comfort Jr. Sulky,
Solid Comfort Gang, Steel and Wood Beam,
Walking Plows, Steel and Wood Beam Chilled Walking Plows,
and the old reliable
Fosmir and Stockton Reversible Gang Plows,
the California Disc Plows. Three Gang and larger,
manufactured by us to stand and do the hardest kind of work

Do not fail to see this plow before buying, also Syracuse Steel Lever Harrows, Spring Tooth Harrows, etc. Have you seen the best Wagon on the market? You have not unless you have cast an eagle eye on the Harrison; and remember the location, which is the important part

L. A. MARTIN & SON 137-143 WILMINGTON ST., formerly Old San Pedro St., LOS ANGELES

Stockton Reversible Gang Plow

EFFECTIVE DURABLE LIGHT OF DRAFT



This is our regular Plow and Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Hauser & Haines Mfg. Co.
Stockton, Cal.

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

When writing to Advertisers Please mention Cultivator

THE YEAR.

It was beautiful in spring-time,
With its robes of emerald hue,
Its clouds of fleecy whiteness,
And its skies of softest blue.

It was lovely in the summer,
With its flower-garnished train;
When the harvest moon was shining
On the waving, ripening grain.

Now the autumn leaves are falling,
And their crimson turns to gold;
The purple fruit is garnered in:
The year is growing old.

When the softly-falling snow-flakes
Cover all the world with white;
Spring will be but a remembrance
Of blue skies and golden light.

When the winter of our spring-time
Leaves its snows on our brow,
Youth will be a fading memory
Of bright dreams, forgotten now.

When our azure skies have faded,
When our harvest moon has set,
If our purple fruit was garnered,
We'll have Heaven left us yet.
—Virginia Keating, in Farm and Home.

Faithful to the End

Mrs. James Humphrey relates this story, in the American Club Woman, of the fidelity of club friendship. It is an interesting article in support of the modern woman's club, which is being assailed today by anti-club believers as one of the causes of the demoralization of the home and kindred conditions which prevail in society:

"The club was not many years old when it received a valuable accession to its membership in Mrs. George Baring. That she was well born and bred, superior in mental qualities, refined in manners and of very attractive personality was apparent at once. It was also manifest from the style of living adopted by her husband and herself that they were not lacking in wealth. They took rooms at the highest priced hotel, paid liberally for every service, and required and enjoyed the best of everything. They proved to be both sociable and hospitable, and the best people of "M" received them as friends.

Mr. Baring signed himself "Capitalist" and entered into some speculative schemes for which he seemed to have the ready money, though it was given out that most of his fortune was invested elsewhere, but would in time be disengaged and brought West.

Mrs. Baring at once took that place in the club which she never lost. Among the first in diligence and thoughtfulness, as well as energy and enthusiasm, each year more and more endeared her to the little group to whom it was given to stand by her in the dark days of misfortune which came to her.

For after several years of seeming prosperity and happiness a sudden cloud overspread her sky. Mr. Baring's absences, always frequent, began to be prolonged, and as they were, without doubt, a congenial couple, Mrs. Baring's bright spirits were in consequence somewhat dimmed. But she put a brave face on the matter. "It was business, perplexing business," she said, "that kept him away. and she should be only too glad when circumstances so shaped his affairs as to permit him to place all his investments near "M."

At length a year had passed since Mr. Baring had been at home, then month after month dragged along it was two. Deep shadows began to dwell on the fair face of the faithful wife, but not a word of distrust or condemnation of the absent one fell from her lips. To every one she said: "The separation was dreary, but she hoped it would soon end."

Then came a rumor of hotel bills unpaid. The landlord, whose patience had been long drawn out, cut it short at last by the intimation that the best rooms in the house could no longer be held unless paid for. She quietly secured a room in a house of a friend near by, confidently assuring him. however, that her husband would soon come and pay all.

Her wardrobe, once elegant and complete, began to show signs of decay, though with painstaking skill the excellent materials of which it was composed were transformed into new shapes and the best portions brought to the front. But, as time went on, the worn spots would not be concealed, even by the most artistic needlework. And despite her resolute courage and indomitable will the lines of anxiety would show in her face. But such was her proud carriage and dignified mien that no one dared to go to her with the question. "Do you need help?"

Always, when asked concerning her husband, she said: "He will come soon I am sure," though her voice grew plaintive, and fear rather than confidence was implied in her tones. She had ceased going to the hotel for her meals and was cooking for herself in her room, though this fact was never mentioned by her nor to her. Yet invitations to dine and to sup were given her more frequently than before, and baskets of delicacies, always accompanied by a gift of flowers, found their way to her room.

But a time came when the club members could no longer disguise their efforts to relieve. Mrs. Baring was ill, and at once they were at her bedside, grieved at the actual want in which they found her. At once they brought food, medicine, nurse, physician, clothing, everything that was necessary to her comfort. And withal they gave their loving, cheering, inspiring presence.

When she recovered they set about devising ways and means of providing for her necessities without seeming to dole out charity. The baker, the butcher, the grocer were each provided with a sum of money and instructed to inform her that these amounts had been placed to her credit by an unknown party. Her imagination caught at a suggestion that this had been done by her husband for some unaccountable reason.

The pitiful and painstaking economy with which she drew upon this provision, to make it last until he came, proved her innate integrity.

Until he came. This was the burden of her thought, and at last, at last, he came.

One fearful stormy night he stood at her room door, a forlorn, dejected, aged, miserable wreck of his former self, waiting a word of permission from her to enter, waiting to be drawn in, wept over and forgiven.

The story he told she never spoke of, never betrayed by so much as a quiver of an eye, nor did her faithful friends in any way make known to her that they had learned, at an earlier date, the reason of his absence.

Baring had lost heavily in some of his financial operations and, in the midst of his perplexities, hoping to have time to make the amount good. had used funds belonging to other parties. The law called this embezzlement, and condemned him to serve a term in a penal institution from which he had just been released.

What it cost that proud soul to receive him after such a confession can never be known. But he was so humble, so abject, so humiliated, so helpless, that she could not but be merciful. It was not in her to do otherwise. She cared for him through a long and violent illness with all her old-time tenderness and devotion. Her club friends stood by her faithfully, and when he was able to be removed provided for them a small cottage home. Never in her happier days was she met with more cordial greetings, never with such unwearying attentions.

"I must work," she said, "give me something to do by which I can earn our bread. You are too good to us."

And they brought her fine sewing, lace work and embroidery, and paid her in proportion to her needs rather than the market value of the work. This contented her. Never before had she served others for pay, but she did it now, diligently and faithfully

But before the winter came again, Baring had partially recovered his strength and was gone, "to seek employment in a distant city," she said, "he would send for her when he obtained a position."

But another call came to her first. During the cold weather of '98 her struggle for life , her toils and humiliations were ended.

Faithful to the last, the members of her club stood by her. Theirs was the love that endured to the end. They laid her to rest with flowers, and music and sacred ceremonies, and the tears of friendship bedewed her grave. The lonely mourner afar off, unable to come because of poverty, sent his thanks to the club, no member of which will ever regret the sacrifices of time or money this beautiful charity may have cost them.

TO CURE A COLD.

Consul-General Guenther of Frankfort, Germany. tells of a new cure for a cold. It consists of a mixture of cocaine, paranephrine, and water, applied on cotton to the nose. It arrests secretions and cures the cold, usually, by several applications. Inasmuch as colds can lead to dangerous diseases, it is wise to prevent its protraction. In the case of children, Doctor Vohsen, advises Mothers to cut a small rubber tube obliquely and to insert the sharpened end into the nose, then, by means of a rubber ball, blow air into the tube. Thus the secretions in one side may be blown out through the other side. This eases the children and allows them to breathe freely. One can see at a glance how valuable such knowledge is. It can be used in all kinds of cases affecting the nose and throat.

THE HABIT OF SPITTING.

Boards of Health throughout the country are inaugurating a campaign against spitting on the sidewalks and in cars. The women, rightly too, are protesting through clubs and kindred organizations against this vile and vulgar habit.

Discussing this subject with a lady on the car recently, she made this pertinent observation: "If men were compelled to wear skirts I think they would see the necessity for stopping this vulgar habit. It is disgusting to women, and disgusting in the extreme." The American man, the most cleanly, as a rule, of the male class, seem the most indifferent to this habit. It would seem that they ought to have the truth forcibly impressed upon them that miscellaneous spitting is a habit simply disgusting in its nature. As things are, the American man spits without any regard to place; on the sidewalks of our streets, in cars and trains, in halls and entries—everywhere. It is a habit peculiarly American, and anything but creditable to our sense of propriety. In European capitals the sidewalks of the streets are immaculate in comparison with those of this country. Our cities are a positive disgrace in this respect. Nor is this true of our cities alone. The places of meeting of men in the smallest village present the same appearance. The sidewalks in front of the rural general store or post-office is made almost impassible to women by this offensive practice. Devoid of every instinct of decency as the habit is itself, it is perfectly revolting to a woman's sense of refinement. It is she who is most offended and injured by it. She can not constantly keep her skirts free from the sidewalks, and yet if she wishes to avoid bedraggling her garments she must do so. Men do not appreciate this. If, as I have said, they were compelled to don skirts for a while, I think their expectorations would soon stop. But as such a change is not probable it behooves every man to do what he can to correct the habit in other ways. He must correct himself if he is guilty of it, and for those of us who are not the time has come when we should awake to the realization that we owe some duty to the women of our homes in this matter. The practice has gone altogether too far.

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trade Marks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phones 347

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

Ostrich Plumes MADE OVER
We clean, redye, make over and curl boas, tips, plumes, etc., and add new top feathers to plumes when necessary. Send your work at once or write for prices. Satisfaction guaranteed.
CAWSTON OSTRICH FARM AND FACTORY
P. O. Box 1072. South Pasadena, California

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

Women have inwardly revoltd at it; at times they have publicly cried out against it.

In the cities of Denver, Los Angeles and San Francisco, as well as in many smaller cities in California, Boards of Health have adopted stringent measures to stop the habit. But with all their efforts it is not abated as it should be.

Let the woman's clubs all over the State take up the question of a more stringent enforcement of the ordinances and the reform, which appeals to every clean-minded man and woman, will soon spread. It is a work in every way calling for the attention and action of Boards of Health and all bodies and citizens interested in the health of communities. The spitting habit is an absolute menace to the public health.

ADVICE TO WOMEN WHO BUY MILK.

Don't conceive the notion that all milk men are dishonest. They are not. Some are rascals, but not all.

Be sure to avoid taking loose milk from the open can. Always select bottled milk if you are assured that the bottles are filled at the farm or at the distributing dairy. Measuring out in the street dust is a disgusting practice, but still another element of danger is added by the use of the bottles thus filled. The bottles are not sterilized, may not even be properly washed, and may come from houses where contagious diseases have occurred. Having selected a dairy, be loyal to it; if you have complaints to make, see that they reach headquarters.

Whether in country or city, the householder is not to put her reliance on any so-called "tests." She is not to buy a lactometer or a neat little case of chemicals. The average woman has neither time nor training for such exact use of these appliances as alone can give value to results.

Look carefully at the bottom of your jar for sediment. If you value the health of your family don't overlook this caution. The most ignorant can judge of this condition.

Sediment in milk means unclean methods; it is not to be tolerated. "Hold back the last spoonful in pouring" is a common household rule—far better, send in your complaint to the central office. An unpleasant or "cowy" odor is also ground for suspicion; it means barnyard filth.

See that the milk bottle is put on ice as soon as delivered; that utensils used for milk are used for nothing else; that they are washed, scalded and drained, without wiping. Wipe off the mouth of the bottle before pouring out. Protect from dust and flies as well as heat. In cool weather keep in a well aired place rather than the ice box. Use only glass or crockery as containers. Good milk should keep twenty-four hours. If it does not there is something wrong in the method of the milkers or in the jars used. But in every event insist on clean milk, and if you can not get it report to the Board of Health.

COUNTRY AND SUBURBAN HOMES.

The foundation of human happiness centers in the home life of the people. With a beautiful country or suburban home the professional man or merchant soon forgets the worries of city business in the enjoyment of his home surroundings. There is in America a growing tendency towards the separation of the home and business life, for when one spends eight hours each day with the rush of business, both the body and the mind call for a rest. Modern transportation facilities have enabled the brain worker to take this rest in the surburbs amid nature's surroundings. Here the "world forgetting, by the world forgot," we can enjoy life in reality, for here is the one place of earth which is our very own. For however much we may enjoy traveling in foreign lands or the pleasant hours spent at an opera, yet with all these "there is no place like home."

But as "a thing of beauty is a joy forever," if he would get the most enjoyment from our home life, we must beautify our homes to the fullest possible extent. This is best done by attention to the grounds surrounding the house, which in the country may be of good size. For we may have a costly house, elegantly furnished, yet if the surrounding grounds are not planted to nature's green sward, with flowering shrubs, trees, and flowers in harmony, our home will lack the inviting, restful appearance so essential to make it what it should be. The house should be the center of the picture presented to the eye, which a harmonious framework of grass, shrubs and flowers will bring forth in all its beauty.

PICKING CALIFORNIA VIOLETS IN DECEMBER.

No other flower is so closely associated with the house as the violet, for in every California garden they may be found massed around the foundation or used as border plants leading up to the door. None other diffuses such a delightful fragrance during the winter months.

MOUNTAIN-TOP FLOWERS.

On the snow-capped peaks of the Rockies, miles above the sea level, and far above the clouds, the stony summits are gay from Spring to Autumn with the colors of the wild flowers that bloom in that dizzy world. Clinging to granite ledges, peeping from dark crevices and hiding in the spruce woods, are found some of the most delicately beautiful of Nature's petaled children. They are not often seen, because comparatively few persons who have visited their haunts.

BE ORIGINAL.

As cities came to usurp the freedom of country life, and ground became too expensive for front yards, city people who loved flowers and whose front yards were only brick sidewalks, were obliged to put their plants and seeds in the rear, if they had any at all, and so grew the fashion of back door flower gardens.

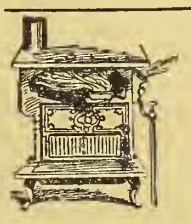
A silly country man who visited his city cousin observed the rear flower growing, went home, despoiled his front yard and did his utmost to conceal his shrubs and blossoms, as if they were things he was very much ashamed of, until the passer-by in the country no longer looked on beautiful flowering shrubs and cheerful annuals, but instead beheld stretches of bare green grass, like a meadow until the sun of summer came and scorched it brown, when it became a tangly, withered offense to the human vision. How prettily a bit of bright color might have relived this somberness, but the eye sought for it in vain. Imitation is said to be complimentary, and may sometimes be forgiven, but the floral faddist should not be encouraged.

SCOTCH HEATHER.

The heather in Scotland, when the snow begins to melt, is burned off by the shepherds to promote the new growth of tender herbage. It is said to be productive at times of the most beautiful nocturnal appearances, of many colored lights and sounds of explosion in volcanic effect. In the "Lady of the Lake," Scott beautifully describes the heather on fire.

ANOTHER USE FOR THE CACTUS.

A new soporific, to which the name of pelottin has been given, has been discovered in a Mexican cactus named Analonium. The native Mexicans eat slices of the plant, which they call "pelate." Its hypnotic alkaloid has been separated by Dr. Hefter, of Leipzig. One grain of pellotin is equal in its effects to fifteen and a half grains of trional and to thirty-one grains of chloral. In large doses pellotin is found to be effective in quieting victims of delirium tremens.



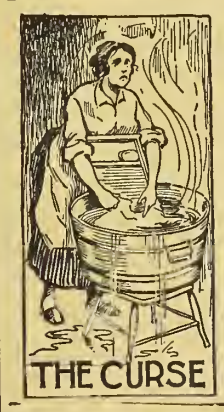
BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.



Oh! What A Difference

IN THE MORNING

Especially wash day morning when you use a

WHITE LILY WASHER

JUST TRY ONE

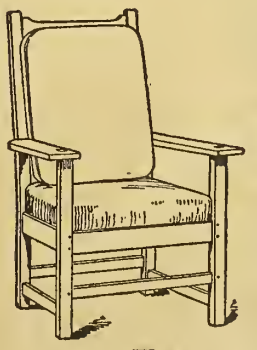
Ask your HARDWARE DEALER for the WHITE LILY

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

"Dependable Furniture at a Fair Price"

True Mission Furniture



The Old Mission styles of furniture are the most favored and the most used now. The plain, simple lines and the peculiar finishes of the weathered oak and the dark rich mahogany are decidedly pleasing and are in strict keeping with the bungalow form of architecture which is so popular in this section of the country. There is a great diversity of style and finish even in these special lines and just as great an opportunity exists for inferior workmanship. The mission furniture from the factory of the famous craftsman, Gustav Stickley, is acknowledged to be the finest in the country—made entirely by hand even to the smallest parts and every joint is mortised and pinned and made to fit perfectly. We are agents here for this superior furniture and constantly carry a very large and selected stock. All mail orders given prompt attention.

"All Goods Marked in Plain Figures."

NILES PEASE FURNITURE CO

439-441-443 SO. SPRING ST., LOS ANGELES. CAL.

WOMEN AS SQUAB RAISERS.

(Continued from First Page.)

feeding and watering in the morning, examining the nests to see that every thing is all right and a similar process during the afternoon. For the ten pens this work would consume about one hour each day and should be performed regularly.

The pens should be kept clean, fresh nests be supplied the birds as they are ready to lay again and a thorough cleaning of each pen at least once a month, which may be on any day that is convenient for the attendand, and would require about half a day for each pen.

Trusting this will answer many of the beginners' questions we may be able at some future writing to give in full detail the work of a squab plant in running order.

SUCCESS

GASOLINE AND DISTILLATE

ENGINES

STAND EVERY TEST

PRICES— 2¼ Horse Power, $125.00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON

1000 N. Main St. - Los Angeles, Cal.

About Lumps

IN

Woman's Breast

[San Francisco Cal., Nov. '05]

DR. S. R. CHAMLEY, the acknowledged authority in America on Cancer says in his book on "Cancers and Tumors Cured without Knife or Pain" that any lump in woman's breast is Cancer.

The book teaches that any tumor, lump or sore on the lip, face or anywhere six months is Cancer.

The Doctor offers $1,000 if he ever fails to cure any Cancer he treats before it poisons deep glands and charges nothing until cured. No X Ray or other swindle.

The book is full of testimonials from ministers, doctors and millionaires, many of them right here. Leading newspapers and medical journals the world over have given him great praise; no man is doing a grander work for humanity. He has been curing Cancers over a third of a century, Investigate his absolute guarantee.

The book is sent FREE to those who describe their Cancer, 50 cents to others. Address,

25 Third St., San Francisco, Cal.

PROSPECTOR'S EXCURSIONS

from LOS ANGELES to

NIPPENO, round trip, $20.00
GOOD SPRINGS " " 20.95
LAS VEGAS " " 23.60
MOAPA " " 27.55
CALIENTE " " 33.45

VIA THE

Salt Lake Route

These tickets will be sold daily, commencing Nov. 1st., with a return limit of 30 days. Mining literature gladly furnished free. Los Angeles City Office, 250 South Spring St.

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

Los Angeles Markets.

Los Angeles, Dec. 7, 1905.

Buter remains practically unchanged, and in good supply. Fresh ranch eggs are lower and poultry has also dropped a couple of cents. Potatoes are plentiful and in keen demand. Vegetables are in fair supply, with a keen demand and higher prices.

Butter.

B. of T. Creamery, per roll..65@67½
Valley Creamery, fancy....65@67½
Valley Storage .....55@57½
Fancy Dairy .....50@52½
Cooking .. ..20@22

Cheese.

Cal. 3-lb hand 19½
Cal. Young America 18½
California Anchor 17½
Northern .. ..16@17
Domestic Swiss 18
Imported do 28

Eggs.

Eggs, Fresh Ranch 40
Eastern and Storage .....33@35
Seconds... 22

Poultry.

Fryers, 2½ lbs.....14
Broilers, under 2 lbs.. per lb.....16
Young Roosters, per lb.....14
Hens, per lb.....14
Ducks, per lb 13
Geese 12
Turkeys 18

Live Stock.

The folowing quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt.....5.75
Prime Steers, cwt 3.50
Cows, cwt 2.85
Calves, cwt 4.50
Sheep, ewes, per head.....4.00
Lambs, do 3.25
Wethers, per head 4.50

Potatoes.

Northern, per sack.....$1.15@1.75
Locals, per cwt .....1.10@1.25
Sweets, white, per cwt.....1.00
Sweets, yellow 1.25

Vegetables.

Onions, Silver Skins, cwt.....1.75
Onions, yellow, per cental.....1.40
Cabbage, per sack .....40@50
Cauliflower, per doz .....25@30
Bell Peppers .. ..4@5
Wax Beans 5
Cucumbers, per box 1.00
String Beans .. ..4½@5½
Green Onions, doz bunches ..20@25
Carrots, doz. bunches.....30
Turnips, doz. bunches .....20@25
Celery, dozen .....30@75
Peas, per lb 5
Egg Plant .. ..3@3½
Chili Peppers, green .....1½@2
Chili Peppers, dry .....15@20
Tomatoes, local 40
Parsley, per doz. bunches.....30
Summer Squash, bx 20 lbs....40@50
Green Corn, per sack .....75@1.25
Lima Beans .....4½@5
Rhubarb 2½

Citrus Fruits.

Lemonds, standard 1.50
Lemons, fancy 3.00
Grapefruit .. ..1.75@2.50
Seedless 3.00
Navels .. ..2.00@2.50

Fresh Fruits.

Apples, Bellefleur .....1.25@1.50
Fall Pippins .. ..2.00@2.50
Apples, 4½-tier Rh. Is. Grn 90@1.10
Apples, W. W. Pearmain ..1.25@1.50
Strawberries, per crate ....3.00@3.50
Blackberries, per crate 3.00
Pomegranates, per crate.....75@80
Figs, per box 1.25
Black Figs 1.25
Muscats .. ..90@1.75
Tokays .. ..1.35@1.75
Cornichons 1.50
Pears, Winter Nellis, per lb 4
Casaba Melons, large crates 2.25@2.75
Guavas, per basket 4

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11; fy 8½; ch, 7½.

Peaches, fy, 8½@10½; ch, 7½@8.

Santa Clara Prunes, 30-40, 8c; 40-50, 7c; 50-60, 6c; 60-70, 5½c.

Loose Muscatel Raisins, 2-crown 4½c; 3-crown, 5c; 5-crown, 6c.

Beans, Dried.

Limas .. ..4.25@4.50
Pinks, fancy .....2.50@2.65
Lady Washington .....3.00@3.10
Navies .. ..3.50@3.75
Black Eyes .. ..5.50@6.00

Nuts.

Walnuts, No. 1, soft shell 14½
Do, No. 2 .....8@10
Do. No. 1, hard shells.....12
Do. No. 2, hard shells.....10
Almonds, paper shell .....15½@16
Almonds, soft shell.. 14
Peanuts, California 6½
Peanuts, Eastern 7½

Honey.

Honey, comb frames.....16@16½
White, strained, per lb.....7
Amber 12½
Beeswax 27

Hay.

Barley .. ..12@14.50
Alfalfa, local .....13@13.50
Alfalfa, Northern .....11@12.50
Wheat .. ..13.50@14.50
Tame Oat .....11@18.50

Grain.

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran 1.30
Feed Corn Meal 1.55
Shorts 1.45
Wheat .. ..$1.65@1.70
Cracked Corn 1.50
Oil Cake Meal 2.10
Cocoanut Meal 1.55

F. E. Twining of the Stockmen's Supply company of Fresno, has issued vol. 1 No. 1 of Stockmen's Bulletin. It is issued for the purpose of advertising the goods of the company but at the same time has much valuable information to the stock grower and dairyman. The leading article of this first issue is on milk fever, with description of disease, symptoms, appliance for cure and method of using it. The stock of goods carried by the company is large and contains nearly everything the stockman or veterinarian might wish for treatment of diseases.

San Francisco Markets.

San Francisco, Dec. 6, 1905.

Butter.

Quotations in the butter market were of satisfactory proportions yesterday and the general undertone was steady. Available supplies of fresh lines of butter fully balanced trade wants and offerings of extras were well absorbed at the quoted basis price.

Fresh California, extra.....29
Eastern extras 24½
Storage, California, extras 25

Cheese.

California, new 14¼
California firsts 13½
California seconds 12½
Eastern, Cheddars 15½
Storage, California 13½
Storage, Eastern 15

Eggs.

Ranch eggs were firmer. Supplies of selected and firsts were lighter and were held at higher rates, close clearances of available supplies being easily effected at the improved figures.

Eggs, fresh ranch 45
Eastern and Storage 28½
Seconds 23½

Poultry.

Poultry is scarce and prices firm as quoted below:

Old Roosters, per doz.....$4.50@5.00
Young Roosters, per doz....5.50@6.50
Hens, per doz .....4.50@5.00
Ducks, per doz 5.50
Turkeys, per lb.....18@20
Geese, per pair .....$2.00@2.25

Live Stock.

Strong and active markets are reported for all descriptions of Live Stock and the appearing prices are maintained with marked firmness.

Hogs, 200 lbs., per lb.....5¾
Prime Steers, lb .....6½@7½
Cows, lb .....5@5½
Calves, lb .....4½@5
Sheep, ewes, per lb.....3½@4
Lambs, per head .....3.00@3.50
Wethers, per lb.....4½

Potatoes.

River Burbanks .....50@75
Salinas Burbanks .....$1.00@1.40
Oregon Burbanks .....75@1.10
Sweets, yellow .....1.25@1.50

Vegetables.

Only slight changes are noted in vegetables. Tomatoes are very plentiful and canteloupes are lower.

Onions, yellow, per sack...$1.20@1.40
Bell Peppers 10
Chili Peppers .....4@5
Cucumbers, per box .....75@1.25
String Beans .....9@12
Wax Beans .....10@12
Egg Plant, per crate.....2.00
Summer Squash, per box....75@1.00

Citrus Fruits.

Navels .. ..$2.00@2.25
Lemons, standard .....1.50@3.00
Limes .. ..4.00@5.00
Grapefruit .. ..1.50@2.50
Tangerines .. ..1.00@1.50

Fresh Fruits.

The first guavas of the season are now on the market from Burnett. Tokay and Cornichon grapes from Gardena are also for sale.

Apples, per box.....$1.60@1.75
Apples, fancy .....$1.25@1.50
Strawberries, per chest ....3.75@8.00
Cranberries, per bbl.....15@16
Grapes, per box or crate.....65@1.00

Beans, Dried.

Limas .. ..4.20@4.30

Pinks	2.00@2.15
Small Whites	3.15@3.25
Black Eyes	4.50@4.75
Bayos	3.50@3.75
Red Kidney	$3.25@3.75
Horse Beans	$1.25@1.85

Hay.

Barley, new	$8.00@11.00
Alfalfa	7.50@12.50
Wheat	11.00@16.50
Oats	10.00@15.00

Grain.

Wheat	$1.33½@1.36¾
Barley	1.20@1.22½
Corn	1.32@1.35
Oats	1.37@1.50
Rye	1.45@1.52
Rolled Barley, per ton	$26@27.50
Bran, per ton	19.50@20.00
Feed Corn Meal, per ton	29.50@30.50
Middlings	½ 26@30
Cracked Corn, per ton	30@31
Oil Cake Meal, per ton	37.00
Cocoanut Cake, per ton	22.00

Hops.

Grades	9½@11c

CITRUS MARKETS

New York Market.

New York, Dec. 5.—Five cars of California citrus fruit were sold at today's auction. There was no particular change in the condition of the market. The prices were steady and values realized in accordance with quality of the fruit. There are five cars of fruit on track with nine now due.

Navels.

	Averages.
Mariposa, fy, CCU Exeter	$2.85
Blue Seal, xf, A. C. G. Fr. Ex.	1.65
Bear and Eagle, fy, Tulare County to Citrus Fr. Ex.	2.70
Hollywreath, fy, CCU Lindsay	2.60
Marguerite, xc, CCU, Lindsay	2.25

Lemons.

Flower, fy	$2.75
Flower, xc	2.50

Foreign Lemon Sale.

Seven thousand boxes of Sicily lemons were sold at the foreign lemon auction today. The cargo was in generally good condition. Prices realized, however, were lower than those of the last sale and the market was weaker. Values realized were as follows:

Fancy 300's, $2.20 to	$2.35
Choice 300's, $1.90 to	2.10
Fancy 360's, $2.30 to	2.50
Choice 360's, $2.20 to	2.25

The next foreign lemon auction will be held on Friday, the 8th inst., when 10,000 boxes will be offered.

Dec. 6.—Four cars of California fruit were sold at today's citrus auction. The market continues steady, with a good demand for fancy stock. The weather is favorable, with receipts continuing moderate, there being four cars on track, with seven due.

Moore's ex. fcy, C. C. U., Exeter	$2.55
Mariposa, fy, C. C. U., Exeter	2.85
Mariposa, fy, C. C. U., Exeter	2.80
Mistletoe, ch, C. C. U., Exeter	2.50
Moore's ex. ch, C. C. U., Exeter	2.40

Boston Market.

Boston, Mass., Dec. 6.—Three cars were sold at the auction today. The market is very strong on navels.

Mariposa, fy, C. C. U., Exeter	$2.90

Lemons.

Pet. xc., San Antonio, Ex.	$3.15
Selects, ch., San Antonio, Ex.	2.80
Gondolier, xc., C. C. U., Rialto	2.60

Philadelphia Market.

Philadelphia, Dec. 6.—The market is firm on good stock, with the weather cool.

Forget-me-not, fy., Tulare county Citrus Fruit Exchange	$2.50

Lemons.

Purity, fy., Wilson & Gilman	$2.65
Bridal Wreath, xc., Wilson & Gilman	2.25
Majestic	1.55

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the columns of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

VETERINARIAN BEST.

EditorCultivator: I have a cow with a hard lump on her throat located at the roots of the tongue. It grows pretty fast and discharges with a strong, nauseating odor, will you kindly tell me through the columns of the Cultivator what it is and give me a remedy that will cure it. O. F. H., Downey.

This is a case of actinomocosis and is unsatisfactory to treat. The growth if not attached to the bone, should be dissected out and the wound cauterized with a hot iron. Rub in corrosive sublimate over the diseased surface which will cause the diseased tissue to detach from the healthy, in from three to four days. Then keep clean and apply carbolized oil to the sore.

FAT FOR BUTCHER.

Editor Cultivator: I have recently secured a cow that is worrying me. She dropped her second calf last June and now gives but from five and one-half to six pounds of milk (rather rich) at a milking. Her udder is very small and covered with long soft hair. She has always been fed about two and one-half to three quarts of bran and a tubful of mixed wheat and oat hay morning and evening. Would you recommend the use of oil cake meal added to the bran and substituting alfalfa for hay or using some alfalfa meal with this hay?

Her former owner (and myself too) was advised **not** to breed her until next January or February so as to have her calve in the rainy season. But this (eighteen months) seems to me too long a period. W. W. S., Campbell.

Your cow will never be a good milker. Would advise drying her up and getting her ready for the butcher. You should breed a young cow within three month after calving.

POSSIBLY TUBERCULOSIS.

Editor Cultivartor: Can you tell me what is the matter with my cow? A lump formed in the left back teat, up near the udder. It grew larger until in three days from formation, it stopped the flow of milk from that teat, and felt about like a marble half an inch in diametcr. The teat has gone dry but the lump still remains.

The milk looked natural as long as it came so it could not have been garget. Don't know of its having been bruised.

She has been on young barley and alfalfa pasture with an occasional feed of alfalfa hay, but no grain. J. B. H., Holtville.

The lump which you describe may be of a tuberculosis nature owing to such rapid growth. If so, the milk would be unfit for use. I would advise having the cow tested with tuberculin and if it proves to be not a tubercular deposit, then should advise having the lump divided by a teat bistory.

CLIMATE AND CROP SERVICE.

United States Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, December 4, 1905.

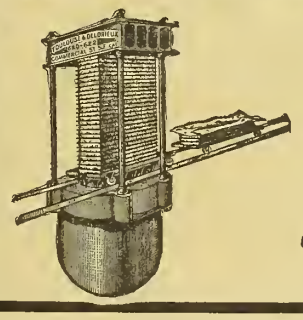
General Summary.

The weather was cool, cloudy and unsettled most of the week in all parts of the state. Light to heavy frosts occurred in nearly all sections, but caused no material damage. The storm of last week was followed by heavy rain in the central and northern sections November 29, with severe thunderstorms in some places and unusually heavy snowfall in the northern foothills and mountains.

In Southern California the seasonal rainfall is much above average and is ample for present needs. The soil is thoroughly saturated and in some places is too wet for cultivation; streams are running and water is rising in irrigation wells. Early sown grain is making good growth and green feed is abundant. In the central and northern sections the precipitation has been less than in the south and has come later than usual, but enough has fallen in the past two weeks to enable farmers to resume plowing and seeding and start pasturage. More rain will be needed soon in the San Joaquin and Sacramento valleys. Farm work of all kinds is progressing satisfactorily. Stock suffered considerably from the long drought, but are rapidly improving.

A few days of bright sunshine in Southern California caused a rapid improvement of citrus fruits, but oranges are coloring slowly and harvesting is somewhat backward; prospects are good for a large crop. Orange picking and shipping continue in the Porterville and Oroville districts, where the crop is good and of excellent quality.

WINE AND OIL MACHINERY



A SPECIALTY

Presses for All Purposes.
Complete Plants Fitted Out.

TOULOUSE & DELORIEUX

618 Commercial St. *San Francisco*

Catalogue Upon Application

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay. Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

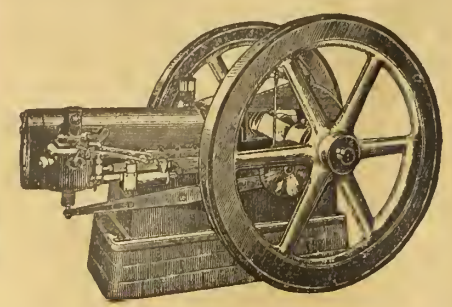
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

WATER IS KING

pump your own water by cheapest known method. Write A. T. Ames, Galt, Cal. for catalogue

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

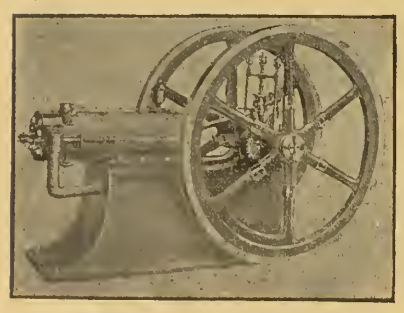
BEST, STRONGEST, SIMPLEST
MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

BUY NOW AND GET SUMMER PRICES
BURNS CHEAPEST FUEL

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

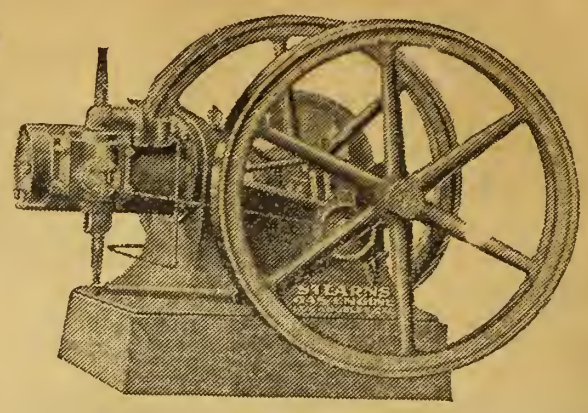
Wm. Gregory
602 North Main St. Los Angeles, Cal.

NO, THIS IS NOT AN ARTESIAN WELL, BUT

AN IRRIGATION PUMPING SYSTEM
SUPPLIED BY
E. J. SMITH MACHINERY CO.
POWER PLANTS, PUMPING MACHINERY AND WATER SUPPLY GOODS
129 No. Los Angeles St., Los Angeles, C.I.

When writing to Advertisers Please mention Cultivator

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use
Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

NATIONAL WOOD PIPE CO.

MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR

WOOD PIPE

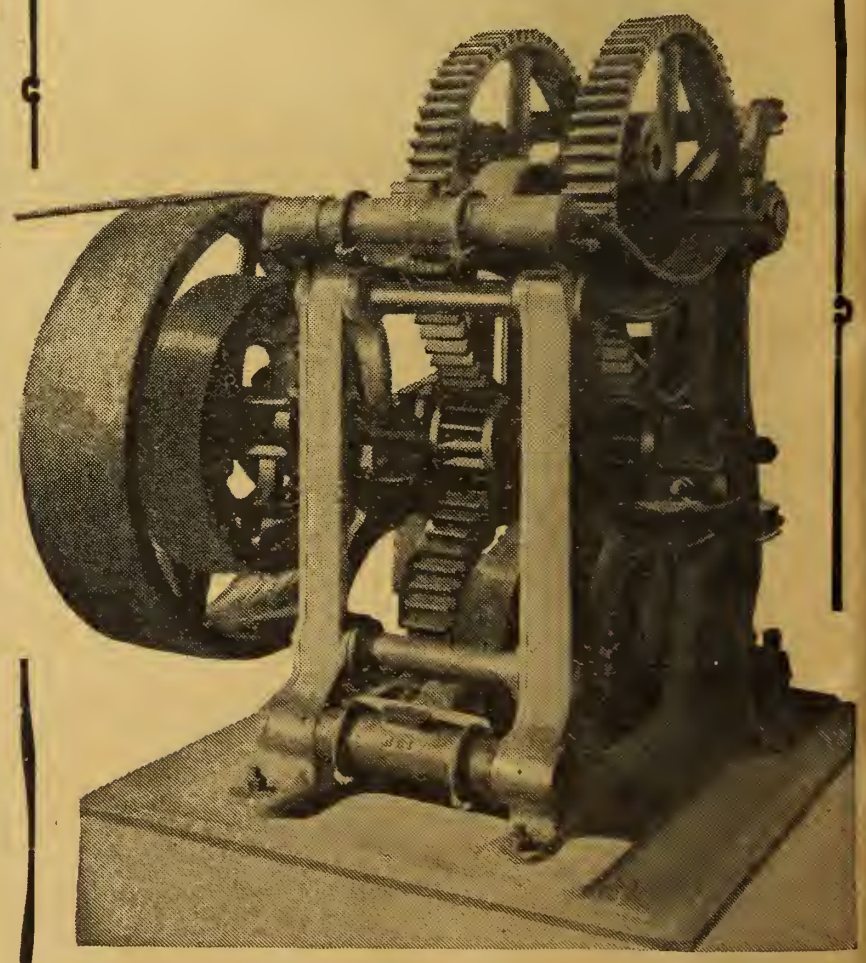
WOODWARD PATENT MACHINE BANDED PIPE
WHEELER PATENT CONTINUOUS STAVE PIPE
BORED WOOD WATER PIPE

Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

The Record for the New Pomona Pumps

FOR 1905

Not a Broken Rod, Not a Plunger Pulled for Repairs



The irrigation season just closing has demonstrated fully the high merit and efficiency of the New Pomona Pumps.

Every one installed has passed through the season's run without breaking a rod or requiring the valves to be pulled for repairs, proving conclusively that the ideal beam motion used by these pumps is more than has been claimed for it.

The slow, uniform motion upward and the quick, smooth down motion handles the rods without any jerk or jar, while the long lap of the plungers in passing the dead points, keeps the water column in continuous motion upward and a steady stream flowing from the discharge pipe.

They have passed through the experimental period and are built better than ever for next year.

The ideal pump for irrigation purposes. Send for catalog.

Pomona Manufacturing Co., Builders, Pomona, Cal.

630.5

The Los Angeles Office of the Cultivator Has Been Moved to 115 No. Broadway (upstairs)

California Cultivator

LOS ANGELES SAN FRANCISCO

DECEMBER 15, 1905

Courtesy Cal. N. W. Ry.

PRUNE ORCHARD IN NORTHERN CALIFORNIA.

In Central and Northern California the prune crop is the leader of all from deciduous fruit trees and the past season has been one of most unusual success. The crop was well distributed throughout the season and the prices were uniformly good. California prunes are today better appreciated than ever before.

PEACH ORCHARD NEAR NOVATA, MARIN COUNTY.

Although this section is noted almost entirely for its extensive dairy interests, its valleys and lower hills are dotted with some of the finest deciduous fruit orchards to be found in the State. During the year 1905 one thousand, nine hundred and forty-six cars of peaches were shipped out of California.

CIRCULATION EXCEEDING 10,000

INVESTIGATE THE

"Old Trusty" Incubator

AND YOU WILL BUY NO OTHER.

Made from selected California redwood, double walls, double doors, extra heavy top and bottom, Miller automatic lamp, and many other features.

Price Just Half as much as some companies are asking for inferior incubators.

Send for price list and free trial offer, guarantee and 120-page poultry book.

Lice Dope 1 gal. can sent, express prepaid. No money. Ask about it.

All Sizes of Old Trusty Incubators in stock. We ship same day order is received; no delay.

Agents Wanted everywhere. Send today for agency offer.

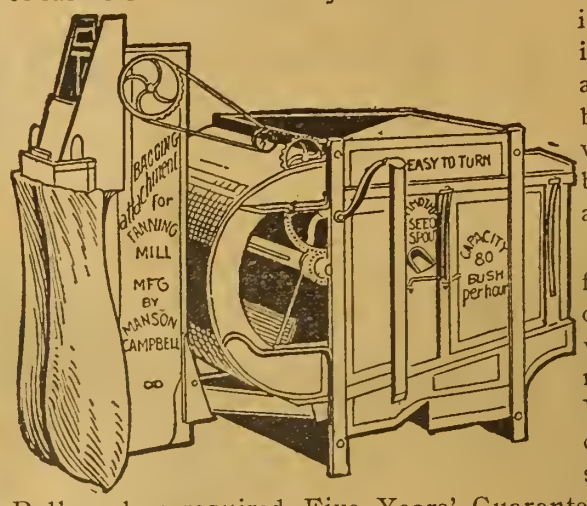
REMEMBER the big catalogue contains 120 pages and 250 illustrations It's free for the asking.

The McClanahan Co.,

819 So. Main St., Los Angeles, Cal.

The "Famous" Chatham

Fanning Mill with Sacker Attached was awarded the GOLD MEDAL at the Lewis & Clark Exposition, where thousands of farmers witnessed daily demonstrations in cleaning, grading and separating grains, such as wheat, oats, barley, rye, vetch, millet, beans, peas and clover seeds



Thirty days' free trial, price of machine within the reach of all. With each machine is sixteen screens, Power Pulley when required, Five Years' Guarantee, and freight charges paid.

Write now for our new catalogue, "How to Make Dollars Out of Wind," sent free.

Geo. W. Foott, 325 E. Morrison St., Portland, Oregon

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

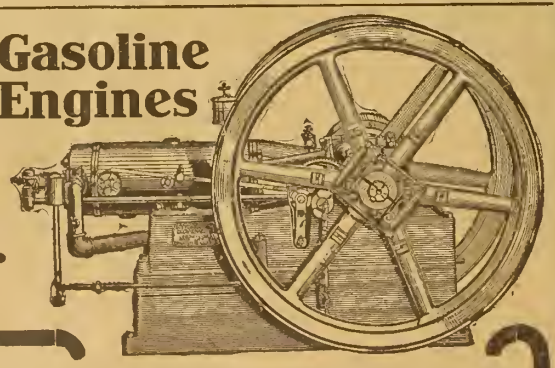
PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

I. H. C. Gasoline Engines

Best For Irrigation.



WHEN it comes to pumping water for irrigation purposes the "I. H. C." Gasoline Engines will be found the **simplest, safest** and the most **durable and economical.** They can be attached to any kind of pump, in any position, for raising water from deep or shallow wells, reservoirs, canals or running streams. They excel in **full, regular and long sustained power.** They can also be used for a general purpose engine for sawing wood, churning, cream separating, feed grinding, etc. They give the maximum of power at the minimum cost. No expert knowledge or trained engineer necessary to operate them. They are unequaled for power of all kinds. Made in a variety of sizes and in two styles. **Horizontal or Portable 6, 8, 10, 12, 15 Horse Power. Vertical, 2, 3, 5 Horse Power.**

Call on local agent and examine these engines or write nearest general agency for illustrated catalog showing how they will save you money.

WESTERN GENERAL AGENCIES: Denver, Col., Helena, Mont., Portland, Ore., Spokane, Wash., Salt Lake City, Utah, San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, ILL.
(INCORPORATED.)

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency. Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

Now Is the Time to Look Over Your Old Plows

Consider them worn out. Come in and see our line of Syracuse Goods, consisting of Syracuse

Disc Plows, Solid Comfort Jr. Sulky,
Solid Comfort Gang, Steel and Wood Beam,
Walking Plows, Steel and Wood Beam Chilled Walking Plows,
and the old reliable
Fosmir and Stockton Reversible Gang Plows,
the California Disc Plows. Three Gang and larger,
manufactured by us to stand and do the hardest kind of work

Do not fail to see this plow before buying, also Syracuse Steel Lever Harrows, Spring Tooth Harrows, etc. Have you seen the best Wagon on the market? You have not unless you have cast an eagle eye on the Harrison; and remember the location, which is the important part

L. A. MARTIN & SON 137-143 WILMINGTON ST., formerly Old San Pedro St., LOS ANGELES

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

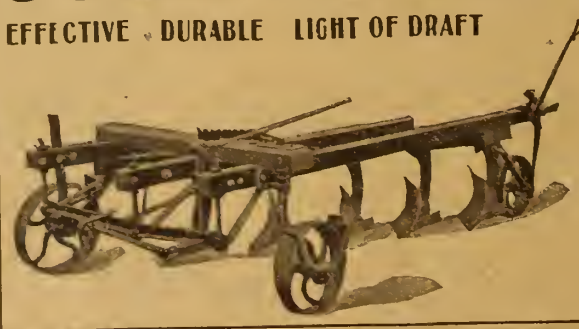
Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

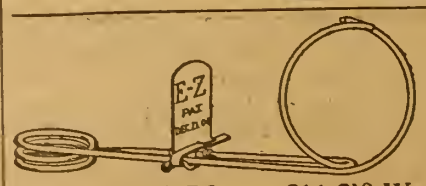
Stockton Reversible Gang Plow

EFFECTIVE DURABLE LIGHT OF DRAFT



This is our regular Plow and Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co.
Stockton, Cal.



Ask Your Dealer for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 24 LOS ANGELES, CAL., FRIDAY, DECEMBER 15, 1905 Subscription $1 a Year

California Fruit Growers in Session

By C. B. Messenger

Governor Pardee, in his address to the State fruit growers this morning, said: "Only the great interests and great importance of the fruit industry accounts for the representative men from all over California gathering in this convention to discuss the matters of vital importance to the industry." The governor referred to the time when Daniel Webster, standing in the senate of the United States, balanced a large copper cent on his index finger and said he would not give that for the agricultural resources of California, and yet today it takes 50,000 cars to transport the annual soil production of the State. The value of fruits upon the trees in this State is estimated by many at from $50,000,000 to $80,000,000.

And yet it is only since 1888 that fruit has been forwarded under refrigeration. The refrigeration has vastly increased the range of our markets and now other possible improvements will still more extend them.

The governor urged the greatest of care in packing and manner of preparing our fruits for market and referred to a successful Southern California grower of oranges whose prices are exceedingly satisfactory, a result which has been secured by greatest care in packing and in seeking the best of markets.

California can produce many, many fruits which no other section can produce. Our oranges, lemons, figs, walnuts, raisins, even apricots have but few competitors. California can rule and control these things if it will be honest and careful in packing, then keen in seeking markets.

The secretary of agriculture, the State horticultural commission, the University, all will lend aid in securing information as to methods of getting best results.

Above all, the governor felt there is no danger of overproduction. With the 6,000,000 of acres in the great valley and the four or more millions of tillable land in its foothills, still, with increasing demand and shrewdness in seeking a new market we will find an outlet for it at remunerative prices.

The large gathering gave hearty applause in appreciation of the governor's speech and to a man arose to their feet in a vote of thanks to him for appearing before the convention.

* * *

The convention opens most successfully and with a large attendance. The local attendance is much larger than is usual and is to the credit of Santa Rosa horticulturists.

There is a feeling of expectation as to whether the endorsement of rate legislation by the national congress will call out a fight by railroad interests. The feeling is now that it will not.

Elwood Cooper is in the chair and in opening he remarked that he had formerly presided at a State convention in this city, just 18 years ago, and quoted from his address at that time. His annual address today, followed much the same lines as formerly, giving much emphasis to the needs of the pure food law. He referred to the present prosperous condition of fruit growers, especially lemons and late oranges, to the light crop of nuts, to pear blight, which has been less virulent during the past year, to the necessity of putting up prunes so they will not mould in boxes, to the successful introduction of caliephialtes, the insect which is hoped will rid the country of the apple worm, and to marketing and transportation problems.

* * *

Russ Stephens is here, of course. He got in the first motion, to have a committee appointed on transportation. Edward Berwick is also loaded with Parcels Post arguments and is greeted with applause for his "We-want-our-pudding" story the same as in the past.

A. R. Sprague, chairman of committee on co-operative fruit marketing, made report. He referred to the appointment of his committee at San Jose last year, and to the instruction to secure a vote of prune growers on the question of co-operative prune marketing. The committee had submitted three propositions, (1) "Whether or not they wish any organized control of the market in the interest of the grower." (2) "If voting yes, do you prefer the profit-sharing plan, viz: to contract to sell your prunes for cash on delivery, for a period of five years, at a price slightly above the present market rate, with an agreement that all profits in marketing shall be equally divided between the marketing company and the growers, each grower receiving his proportion of profit according to the tons of prunes delivered." (3) "Do you prefer a purely co-operative organization."

* * *

The series of questions was submitted to 3,500 growers, but only 210 returned the cards. Of these 116 voted yes on the purely co-operation plan and seven voted no. On a plan of abiding by the vote of the majority and all co-operate only eleven would consent. This discouraging result was at a time when the market was at its worst so that a large return might have been expected.

Mr. Sprague reported more favorably regarding the condition of green fruit and olive growers in the matter of co-operation.

* * *

This afternoon's discussion on apples will be of great interest to apple growers and some of the papers will later appear in The Cutivator.

Countesy Sonoma County Board of Trade.

Diversified Farming Near Santa Rosa.

A good work is planned and as formerly noted in The Cultivator, some fine speakers are on the programme.

Santa Rosa has a good committee of arrangements and the hall and entrance are nicely decorated.

John Isaac, is of course, in the secretary's chair, and has all details in hand.

The directors of the California Raisin Growers' Company have called a mass meeting of raisin growers to be held in Fresno, on Monday, the 18th, for the purpose of submitting to the growers the existing condition of affairs, and ascertaining their views and desires on the subject.

TREES

CALIMYRNA FIG

There are a great many sorts of Smyrna Figs. We catalogue six kinds, but these do not comprise our entire collection. There is only one variety, however, which five years production on a commercial scale warrants us in recommending it for drying purposes, and this particular variety we have designated as above to give it the distinction it deserves. When you buy your trees from us, you know you are purchasing stock originating from pedigreed trees, which have been producing the highest grade of fruit for a period of years. When you purchase a thousand peach trees, you usually designate what you want. You certainly would not permit your nurseryman to send you a lot of varieties, without labeling them, if you could help it. Well, it is the same with the Smyrna fig, some are early, others late, some are purple, others green. Can you afford for the sake of saving a few cents to take chances on buying trees, which cannot be relied on. We were the first ones to demonstrate the value of this fig, and with our seal we guarantee the genuineness of our trees. Prices lower than ever before.

FRUIT TREES

Are grown on a deep, alluvial river bottom, virgin soil, consequently the root system is as perfect as good soil can make them. Our assortment of apples, pears, peaches, prunes, apricots is more complete than ever.

S AND LEMONS

Our stock is grown in Exeter, the famous thermal belt of Tulare County. The soil is a rich, deep, black loam, just the kind which develops the highest grade of fruit, as well as the most perfect type of tree. Our assortment consists of all standard varieties of Oranges, Lemons, Pomelos, Citrons, Limes, etc. Carrying out the lines already established in the other branches, we do not confine ourselves to one or two standards and no more, for although it costs money to keep up a stock of many varieties, we want to be on top in this, as well as in everything we specialize in the nursery business.

GRAPE NES

If you do not know it, you ought to know that we are the largest growers of vines on the Pacific Coast. We are not only growers of raisin, wine and table grapes, but we are also making a specialty of vines grafted on Phylloxera resistant roots. Our great and enterprising neighbor, Mexico, is having its vineyards devastated by this pest, and we have already sold two orders to prominent vineyardists there, who know what our stock is, consisting of eighty thousand grafted vines. How did we get such orders? Because we had pleased our customers before, so they had no hesitation in patronizing us again.

ORNAMENTAL STOCK

Our stock of Texas Umbrella trees branched in all sizes, guaranteed absolutely true to name, is better than ever. We are extensive growers of Poplars, Mulberries, Maples, and all deciduous ornamental trees suited to our conditions.

In evergreens, we have Acacias, Eucalyptus, Palms, Roses, Greenhouse plants, in fact everything you want for your garden.

OUR NURSERIES

Eleven hundred acres in four distinct places. Expensive to run a business so widely distributed. We know it. Why do we not concentrate all in one place? Because we want to be in the position to grow the best of everything, and to do this, must select the soil to suit the tree, shrub or vine. No use to grow a tree where you know beforehand the conditions are not favorable for its perfect development. That is what twenty-one years of experience does. It places us in the position to grow the very best stock. In making a plea for your trade, we do so, not because we have the cheapest stock, but on the ground that when you favor us with your business, you will get the best which money, brains and experience combined can grow.

CATALOGUE

We will mail our large profusely illustrated Catalogue, English or Spanish, to any address on receipt of 5c postage. Price-list mailed on application.

PAID-UP CAPITAL, $200,000.00.

FANCHER CREEK NURSERIES, (Inc.)

GEO. C. ROEDING, President and Manager

FRESNO, CALIFORNIA

When writing advertisers mention Cultivator.

California Horticulturally

By John Isaac, Sacramento, Cal.

WORK ON THE PEAR BLIGHT.

Prof. W. M. Scott, for five years Entomologist and Pathologist of the State of Georgia, and who has been first assistant to Prof. W. B. Waite, in his work with the pear blight for some years, is now in California and will work with Prof. Waite against this scourge of our pear orchards during the latter's stay here, and then take entire charge of the work during the winter when Prof. Waite will have to transfer his services to other portions of the Union. In an interview with Prof. Waite he states that the work of fighting the pear blight pest has been carried on in good shape and that he hopes to have the methods of doing the work in the right manner so thoroughly known in a short time that the disease will be practically stamped out. His work is entirely educational and consists in teaching others how to recognize the blight on sight and how to best check it. To this end he has worked with students of the university and members of the Horticultural Commissions in the affected sections, and through these he will reach the growers, until all will be able to recognize the disease and know how to operate against it. When this is done the pear blight will have lost its terrors.

* * *

ASSOCIATION OF OLIVE GROWERS.

The olive growers of Sacramento Valley recently held a convention in the city of Sacramento for the purpose of effecting an organization, which they did, confining its membership to those only growing olives in the Sacramento Valley. Olive products—oil and pickles—have become a very important branch of industry in the northern part of the State, and Oroville boasts one of the largest establishments devoted to this branch of industry in the State. The organization of growers having for its object improved methods of cultivation, the exchange of ideas as to methods, and the co-operative handling of the crop cannot but be beneficial, and if successful the association will probably find itself forced to extend its field beyond its present limited area. California is the only olive producing State in the Union, the interests of all the growers are identical, and the leaving of any section on the outside of an organization cannot but weaken it. It is to be hoped that the Sacramento Valley Olive Growers' Association may meet with ample success, and yet be compelled to changed its name to the California Association.

* * *

PATRONIZE RELIABLE NURSERY MEN.

The tree planting season is very close to us again, and a few words of advice to prospective orchardists may not be out of place. Tree agents will be numerous and will make every effort to sell their stock. If these represent some well known and reliable nursery it is all right, but unless they do, the less business had with them the better. It is too often the custom of tree peddlers to fill an order for any kind of stock, whether they have it or not—in fact, there is no variety which they do not have, according to their own statements, and often they fill orders for several varieties from the same bunch. It is a great loss of time and often of money to spend several years in cultivating and caring for a young orchard only to find when the trees come to bearing that they are not what were ordered nor what were wanted. When the discovery is made, it is likely that the agent or peddler from whom they were ordered may be out of the state or working some other field, and in any event be wholly irresponsible. Therefore, it is the best part of wisdom to purchase stock from some reliable nursery, or its agent, and then if things are not as they should be there is a chance to make a satisfactory amount of fuss about it any way, and it never pays an established concern to deceive.

* * *

GEORGE COMPERE WILL SOON RETURN.

George Compere is now on his way from Anstralia to California, and will probably be in San Francisco on the next steamer. It was hoped that he would arrive in time to make a report of his labors to the fruit growers at their convention in Santa Rosa, but some delay has prevented this. A great part of Mr. Compere's recent work has been in the direction of discovering a successful parasite for the purple scale and another for the red scale. He has succeeded with regard to the purple, so far that he found a very active and effective parasite of this pest in China and has introduced it into California. It is now being bred and cared for in the insectary of the State Commission of Horticultural in San Francisco, and great hope is entertained that it will prove effective in checking this, the worst of our scale insects. He has already introduced a lady bird which feeds on the red scale, and which has been established in some of the infested sections. This does good work on the red scale and, even if it does not prove an effective check, will at least be a great aid in checking the pest. The fruit growers are anxiously expecting a report from Mr. Compere, and they will not be disappointed in it.

* * *

EARLY NORTHERN ORANGES.

Northern California does not grow very many oranges as compared with the South, nor has the same care and attention been bestowed upon this crop there which characterizes the south, but those who have given oranges the proper care and have produced marketable fruit, have made good money. The one great advantage which the northern orange grower has over his southern brother is in the earliness of his crop. Orange shipments have been going forward since the middle of October, and the height of the season is now on. There will probably be some 2,000 cars of fruit shipped from north of Tehachipa, and most, if not all, will be shipped out before New Year's. Prices have so far been very good, ranging from $3.50 to $3.75 per box, at which price it pays to grow oranges.

* * *

NEEDED RAIN.

Rain has at last fallen in the northern counties, and not before it was badly needed. Last season the first rains fell in the middle of September and these were copious and well followed, so that the whole country was green and feed abundant by the middle of October. Up to Thanksgiving between seven and eight inches of rain had fallen, and there was no period of drought during the whole season. This year no rain worthy of record fell until the end of November, and so far less than an inch has fallen. This has been especially hard on the stock, sheep and dairy men, who are suffering for feed for their animals. It has very seriously retarded the work of the wheat farmers, and little if any plowing has so far been done. Aside from these, however, no damage has resulted from the continuous dry weather, and if the storm which came last week is followed there is no good reason why we should not make crops of all kinds. It is the late, and not the early rains that count in California, and with abundant precipitation between now and May we shall have a good season in spite of its tardiness.

The Cananea Consolidated Copper Co. have just installed a mile of 8 inch bored fir pipe for conveying a water supply to their concentrator at Cananea, Sonora, Mexico. This pipe was made by the National Wood Pipe Company, Olympia, Washington. It is bored out of a solid log in 8 ft. lengths, the bark and sap being turned off from the outside. This is then banded with 1 inch flat steel spaced according to pressure for which pipe is to be used, and the entire outer surface covered with a preservative coating of tar and sawdust. This is the ideal pipe for alkali and mineral conditions.

THE CROCKER BARTLETT PEAR

Is out of sight compared with other pears.

GOLDEN RULE NURSERY - LOOMIS, CAL.

Red Gums for Sale

Thousands of Red Gums 4 to 6 ft. high in cans at $8 per hundred. ORIENTAL NURSERY, T. L. Adams, prop., Station L, Phone Macy 2051, Los Angeles. East end of Brooklyn Ave.

The Johnson & Musser Co.

Los Angeles, Cal.

SEED CATALOGUE Now ready. Write for it.

TREES!

80,000 Apple Trees in 42 Varieties. Extra well rooted. Clean. Grafted on whole roots and free from all pests. Also an extra fine stock of Prunes, Pears, Plums and Walnuts. Write for price list. ***A. F. Scheidecker,*** Proprietor Pleasant View Nursery, ***Sepastopol, Cal.***

THE VERNON NURSERY

4524 Central Avenue, Los Angeles, Ca.

Deciduous Fruit Trees, Grapes, Walnuts, Figs, Peaches, Apricots, Plums, etc.

Phone: South 1105 A. YARNELL, Prop.

California Concord Grapes and Kadota Figs

The undersigned makes a specialty of propogating the new variety of table grape known as the California Concord, and has 2000 vines for sale. Also the Kadota Fig Tree, which while resembling the White Pacific, is larger and sweeter, and the tree much excels the White Pacific in vigor of growth and productiveness. I have also my usual supply of soft-shelled English walnut trees raised from selected nuts. S. H. Taft, Semi-Tropic Nursery, Sawtelle, Cal.

THE OLD ESTABLISHED

WOODBRIDGE FERTILIZERS

ARE RELIABLE

THE WOODBRIDGE CHEMICAL WORKS

318 East First St.
Los Angeles, Cal.

South Pasadena San Bernardino

HOW PLANTS GROW.

It will pay any one of the boys on the farm to take a little time and trouble some time, to ascertain for themselves just how plants grow. Take, for example, a hill of corn three or four inches high, scrape off the surface carefully, take a bucket of water, or several of them if needed, and wash away the soil from the roots so as to expose the roots as much as possible, and study them. They will be surprised at the extent of the root system of a corn plant even four inches high. We will tell them, for they perhaps might not suspect it, that the tips of the plant root exudes or discharges an acid which has the power of dissolving to a certain extent the mineral matter of the soil. Plants take no solid food. There is ash in the mature plant, woody fiber, as well as grain, but the materials of all these must be taken up in liquid form. Plants do not eat, they drink.

They will find in examining this plant that the large roots are simply conduits, pipes to take up this liquid matter, this dissolved food. They will find that the food is mostly taken up by what is called hair roots. If they will pull up another hill of corn and shake off the dirt they will find a good deal of dirt sticking very closely to the hair roots. These are simply elongated cells which push out from the roots and almost glue themselves to the fine particles of dirt. If the boys study this awhile, they will see for themselves how exceedingly important it is to have a properly prepared seed bed, a seed bed in which the particles are in such condition that the roots can move freely and that these hairs roots can come in the closest possible contact with the largest amount of soil.

The plant, however, feeds from the air as well as from the soil. The boys have all noticed that when corn comes up the stalk is round and hard and pointed. This is to enable it to push its way through the soil. As soon, however, as it comes in contact with the sunlight it begins to turn green, then unrolls itself and spreads a large amount of leaf surface to the air. Why does it do this? To breathe, for the plant not only drinks but breathes. They will notice further that all healthy plants have green leaves. When corn begins to turn yellow it is sickly. This green matter is called chlorophyll. It is the workshop of the plant. This green coloring matter is enabled during the day time and when the sun is shining to take the carbon dioxide of the air, dissolve it, and use the carbon, of which plants are most largely built up, for the building up of leaf structure. The boys all notice that corn does not grow much on cloudy days. This laboratory of the plant cannot run except with the sunlight. The more sunlight, when there is plenty of moisture, the more rapid the growth.

The carbon taken up from the air, together with the soluble solids taken up by the roots, circulates in the plant in the form of sap and in this way the plant is built up from day to day and from month to month. Bear in mind that the plants feed from the air as well as from the soil. They drink from the soil; they breathe from the air. The more leaf structure, the larger the factory upstairs; the more root extension, the larger the factory downstairs. The stalk simply connects these two factories and enables them to interchange products, and, so to speak, work together.

Inasmuch as the food from the soil must be taken up altogether in the form of water as drink, one can readily see the necessity of an abundant supply of water and see why it is that the amount of water available, other things being equal, determines largely the extent of the crop. The corn plant, as we have often told the boys, works from planting time until tasseling time simply to get a good ready. It is simply building up the workshop downstairs and upstairs, but when it tassels out and silks begin to form, then it gets down to business and four-fifths of the dry matter of the total plant is created between tasseling time and the full harvest. This is the reason why a scarcity of water at this season either above or below means a short crop.

CHEMISTRY OF SOIL.

An arable soil in its best condition for producing crops contains seven essential parts: Clay, sand, assimilable plant food, moisture, humas, air, micro-organisms.

Clay furnishes the substantial medium required by the plant as a root-hold, and is also a storehouse for preserving some of its food from waste.

Sand is required to make more friable and porous the too stiff and compact soil that clay alone would yield.

The most important part of the food of the plant that is in the soil consists of nitrogen, lime, potash, and phosporic acid, forming a very small part of the soil, and mostly insoluble, or unassimilable.

Plant growth involves unceasing chemical change in the soil as well as in the plant itself, and this cannot go on without water, nor can plant food be taken up without it.

Humus, or decaying vegetable and animal matter is, as it decays, a source of carbonic acid, which is an important solvent of plant food; humus also itself contains plant food, and it is a loosener of the soil.

Air is necessary in the soil for its oxygen, without which the humus is not formed, and cannot decay. An important feature of this decay is the progress of nitrification; this does not go on without the assistance of micro-organisms.

NUTRITION OF PLANTS.

Nutrition is one of the two primary functions of all organisms. The other is reproduction.

There are different methods of taking food. Amaoba absorbs its food through the walls of its body. In higher forms a body cavity is developed and food is absorbed only through its wall. The culmination of complexity of structure is reached in the highly complicated respiratory and digestive systems of the higher animals.

To understand the relation of nutrition in plants to nutrition in animals, one must go back to primitive methods of taking food.

There are two great operations going on in living beings, one a building up process (constructive), the other a tearing down process (destructive).

These processes may be distinguished,—(a) by the materials used as food, (b) by the structure of the operating organs, (c) by the product of the operation.

There is no hard and fast line separating animals from plants. The method of nutrition prevailing among plants is one of the most decisive characters.

The content of the vegetable cell is primarily protoplasm. This in active cells is differentiated in two parts,—the nucleus, at the center, and the ectoplasm, the lining membrane of the wall. The former displays greater citavity in the processes of reproduction, the latter, in those of nutrition.

SEED POTATOES.

Good seed is one of the essentials to success in growing this crop. As the potato decreases in vitality when grown from poor stock, it is best to either select carefully our own seed by saving the product of such hills as yield the greatest weight of smooth, marketable tubers, or buy from a reliable grower whom we know to be selecting his seed in a like manner.

It is a false idea of economy to save a few dollars per acre by using cheap seed, and thereby ruin your chances of success at the start. The fact that many growers are planting small and indifferent seed, year after year, largely accounts for the low average yield reported, and also for the deterioration of most varieties after eight or ten years in the hands of the average grower.

Small to medium tubers grown from selected seed, that have not lost their vitality by sprouting, will generally produce a more satisfactory crop than larger seed of the same variety grown from a poor strain of tubers that have been weakened by excessive sprouting.

San Luis Obispo County Lands. Best and Cheapest in the State. Rainfall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

Ranch for Sale

To close an estate, we offer 33 acres near Compton, for sale. Choice alfalfa land. Best artesian well in that section. Water to sell. Address

Phone Main 922 **C. F. LEE, Pasadena, Cal.**

THE VALUE OF QUALITY

When you are considering the purchase of a wagon, buggy, harness, farm or dairy implement, always bear in mind that we have what you want and of the very best quality at the right price.

DON'T THINK

that you save any money in buying an inferior article. A poor wagon will cost nearly as much as a good one and the repairs necessary to keep it in good running order are very expensive.

BUY THE BEST

and you will be better satisfied and have longer wear at less expense than in the purchase of a cheap, thrown-together trap. We carry only such goods as we can recommend to be of first-class construction.

OUR POLICY

of giving full value has been adhered to since beginning business nineteen years ago. We have constantly increased our stock and now have a complete line to offer our customers.

CALL AND SEE US

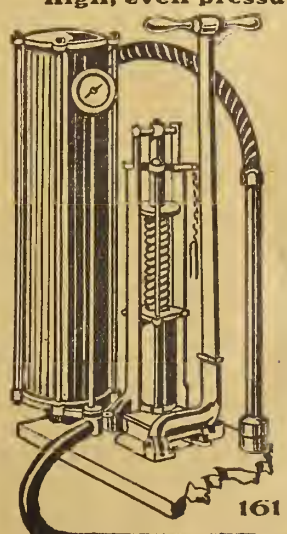
when you are in Los Angeles. We shall be glad to show you the class of goods we carry. Our ad in the Cultivator of two weeks ago, page 485, will give you a general idea of what we have.

NEWELL MATHEWS CO.,

200-204 No. Los Angeles St.
Los Angeles, California

Increase Your Profits

What's the use of going to all the expense of spraying and **then** have poor fruit? The secret of securing clean, fancy fruit is in spraying **thoroughly** with **high, even pressure.** The hired men have seldom done this because the pumps ran so hard, but they do it easily



By Using Bean Magic Spray Pumps

because **they save just one-third the labor.**

In the Spring Rests the Secret

The increase in profit from securing fancy fruit will alone pay for the outfit, and the easy-running, no trouble features found exclusively in the two sizes of **Bean Magic** pumps merit your immediate investigation.

It seems almost too good to be true that all the new improvements can be had in one pump, but it **is** true and you will understand why when you see a **Magic** in operation.

Write for our special offer, freight prepaid, and we will also send our illustrated catalogue No. 16 describing all ten sizes of hand pumps and telling what sprays to use and how to prepare them. State number of acres and kind of fruit. Write today. Catalogue No. 18 describes "Power Sprayers."

Bean Spray Pump Co.
161 W. Santa Clara St., San Jose, Cal.

BY J. W. MILLS, POMONA, CAL.

RECORD OF THE PAST YEAR.

Those who are interested in deciduous fruit growing in California can at the conclusion of any one season generally truthfully exclaim: "The past season was an unusual one," and this exclamation would certainly be entirely true as regards the one just past.

In 1904 the first carload of deciduous fruit—cherries—left California for the East on May 13th, while this year the first carload was shipped on April 22d, being twenty days earlier. This means more than would appear on the surface, for in the places where our fruit is sold, it had to compete with horticultural products from all other districts, and an early year here admits of a greater distribution of our products before the time of heavy competition.

CHERRIES.

It will be seen from this statement that the cherry and pear crops were particularly light, while of the other varieties some were normal and some heavy crops. The shipments of the two varieties first mentioned was lighter this year than for ten or twelve years, and the cause of this shortage is attributed to heavy and continuous rains which fell at the time of the blossoming of the trees thus injuring them so they did not "set" their fruit. In addition to the short crop of cherries, considerable rain was had at the time of harvesting them which further reduced the output. However, returns for those shipped even under adverse conditions, were very satisfactory.

PEARS.

The pears that were available for shipment and for canning and drying, brought exceptionally high prices this year, and for the future for those that are raised, there certainly should be good prices. The pear blight has made its appearance the last year or so in districts heretofore entirely free from it and great concern is felt as to the probable extent of its ravages. It would not be the part of wisdom to plant new pear orchards until it is fully demonstrated whether this disease can be successfully combatted or not. Federal and state officials and experts are now working hard on the problem. It is to be sincerely hoped that the orchards we have can at least be saved.

APRICOTS.

The shipment of apricots was heavier than for any previous season. The markets on this variety of fruit does not expand and it is only in the larger centers that carload lots can be handled to advantage, and even then the distributing capacity is limted. I doubt if the shipment this year will be exceeded for a number of years, unless the season and conditions come so that they can be distributed in assorted carload lots to outside places. Smaller consuming markets that can handle a carload of peaches or pears will comparatively only handle from fifty to one hundred crates of apricots. This assertion in respect to shipments in a fresh state, has no relation to or bearing on their status in a dried state where the facts are directly reversed for the market for the dried product is broadening every year. An improvement in refrigeration and transportation that would permit their being picked riper, and consequently with more flavor and quality might eventually result in their becoming more popular in a fresh state with the consumers.

PEACHES.

Nineteen hundred and forty-six cars were shipped the past season and this fruit, on the whole, found very good markets. This for two principal reasons: first, the earliness of the season allowed a large quantity of them to go into markets before other districts had ripened their peaches; and second, because of the marked shortage of the peach crop in some of the large and competing horticultural centers. The number of cars above referred to was as said before, marketed at very remunerative prices, while for the season of 1904, a late season with big crops in other horticultural districts, only 559 cars were shipped with indifferent results. These facts tell their own story more forcibly than I can and in reply to a number of inquiries I have received on this subject I have invariably replied that some years it would undoubtedly pay to ship moderate quantities of peaches and in other years large quantities could be profitably shipped, but that there would be years when on account of ripening conditions and large crops in other peach growing districts, where planting of this fruit has been greatly increased, it would not pay, and their forwarding would only mean a loss. It stands those who contemplate increasing their peach orchards in hand to plant only those varieties that in the "off" years can be diverted to the dry ground or the cannery.

PLUMS AND PRUNES.

The shipment of plums and prunes was the heaviest with one exception ever shipped from the state. the product was well distributed throughout the season and brought uniformly good prices. The extreme hot spell the first part of July injured some varieties badly, notably Kelsey Japan plums, which prevented their realizing the prices they otherwise would have. California shipping plums and prunes, as usual, are valued foremost in the markets and there will always be a market for a goodly quantity each year, if harvested under normal conditions and well packed, no matter what the size of the crop in competing districts.

GRAPES.

On this fruit shipped this year, results have been very remunerative Many more cars would have been shipped had it not been for the extreme and long continued hot spell the first part of July, which injured them, especially in some of the earlier districts, quite severely. Had the grapes so injured matured and had they been shipped and strung along throughout the shipping season, the several hundred cars so injured could have easily been handled without affecting the prices realized. Based on results achieved the last four years, and using prices as a criterion, I believe grapes promise as much or more for the future than any other varieties of fruit we raise, for the varieties of grapes we raise are not raised in any other place in the United States and the market for them is extending and the demand apparantly increasing yearly.

APPLES.

On apples there was a very good crop this year and the shortage of the Eastern apple crop made possible the widest distribution this fruit has ever had. The splendid packing of the fruit and its unexcelled quality has enabled it to hold its own in all markets.—Lieutenent-Governor Alden Anderson, before the 1905 State Fruit Growers' Convention at Santa Rosa.

GEO. B. WARNER'
Orange County Nurseries
Choice line of Orange Trees, consisting of Valencia Late, Wash. Navel, Navelencia, King Tangerine. Eureka Lemon, Budded Loquat, Blue Gums, Red and Sugar Gums, large stock Soft Shell Walnut trees 3 years old, Grafted Walnuts, Palms, Shrubbery, and general line of deciduous fruit trees. Write for price list.
Est. 1889. SANTA ANA, CAL.

Armstrong Nurseries
The Sign of Quality
Is in evidence in all the nursery stock graphically described in our new catalog, which tells of the best varieties of Fruit Trees, Grape Vines, Field-Grown Roses, Shrubs and Plants. Avoid the middleman and dealer: buy direct from the producer. A copy of this booklet will be sent to you for a two-cent stamp.
Armstrong Nurseries, Box 14, Ontario, Cal

If You Knew You Could Double Your Crop and Enhance Its Quality by Securing Plump, Fertile and Sure-Growing Seed, You would Do It Immediately.

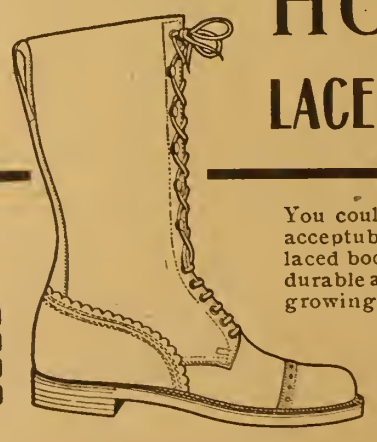
If you will favor us with an order for any of the following sure-growing vegetable seeds, which we are offering at prices within the reach of all, your hope will be realized:
ONIONS—Prize-Taker. Pkt, 5c; oz. 10c; 1-4 lb, 40; 1b, $1.35.
LETTUCE—Curled Simpson. Pkt, 5c; oz, 10c; 1-4 lb, 25c; 1b, 75c.
CABBAGE—Extra Early Eureka. Pkt, 5c; oz, 10c; 1-4 lb, 35c; 1b, $1.25.
BEETS—Improved Blood Red. Pkt, 5c; oz, 10c; 1-4 lb, 20c; 1b, 50c.
CARROTS—Ox Heart. Pkt, 5c; oz, 10c; 1-4 lb, 20c; 1b, 50.
If you plant these seeds you will get results in bounteous crops which will prove a pleasure and a profit.
F. Gilman Taylor Seed Co.
BOX 14, GLENDALE, CAL.

BEST TREE WASH GREENBANK 98% Powdered Caustic Soda and Pure Potash.
Copy of Analysis of competitive brand labelled and sold as "Powdered 98% Caustic Soda: Sodium Hydrate, 75.60%; Sodium Oxid, 58.59%. Signed: I. M. Curtis & Son, Analytical Chemists.
T. W. JACKSON & CO., 123 California Street, SAN FRANCISCO

STEWART BROTHERS NURSERY
The Oldest and Best Established Nursery in Southern California
The largest and healthiest stock of all kinds of Deciduous Fruit Trees in Southern California, from the famous Oregon Nursery Co. Nothing equal in size or healthy growth, with unsurpassed wealth of roots Many thousands Soft Shell Santa Barbara Walnuts grown by us and guaranteed to be of superior quality—(see sample nuts at the office). Citrus trees of all kinds and varieties. Ornamental Trees, Palms, and everything in the tree line desired for Spring planting. Call on
712 S. SPRING ST. LOS ANGELES, CAL.

WALNUT TREES
From carefully hand-selected seed. Postal gets prices.
A. A. Mills - - Anaheim, Cal.

THE ANAHEIM EVERGREEN NURSERIES
Tim Carroll, Prop.
Anaheim, Orange County, California
The Oldest Nursery in Southern California
Established 1868 by the Present Owner.
Palms, Pines, Acacias, Cypress, Camphors, Eucalyptus, Guavas, Budded Loquats and all kinds of Ornamental Trees. Be sure and visit the Nurseries. A cordial invitation to all. Nurseries, 200 yards west of Loara Station, S. P. R. R. Our fine Illustrated Catalogue free. Write for it.

A PAIR OF HOEGEES' LACED BOOTS for a Christmas Gift!

$ 3.50
5.00
6.50
10.00
You could hardly think of anything more acceptuble to the outdoor young man. These laced boots are being made handsomer, more durable and comfortable all the time and are growing in popularity wonderfully fast. We have them in various styles, heights and many kinds of finish from black down through the various shades of tan to pure white; also in variously tinted buckskin effects—some of which look delicious enough to be served on the table. All joking aside, these boots are really works of art, both as to looks and construction; being made over the best lasts and reinforced and made wearproof and waterproof as far as human ingenuity goes in that direction. A pair coming down the pike, with their jaunty lacings of white rawhide, and the pride-of-the-family safely planted inside, is a sight to see.
Send for our outfitting catalogue at once and read carefully.
The Wm. H. Hoegee Co., Inc.
Exchanges 87. 138-142 S. Main St., Los Angeles

CITRUS FRUITS

By C. A. Day. Pasadena

FERTILIZER NEEDED.

Editor Cultivator: Last spring I set out a little orange orchard and in September one tree turned yellow, trunk and leaves. Four weeks ago it shed its leaves and some of the others are turning yellow now at the tops and leaves, and are shedding their leaves, whereas 90 per cent. of them look green and apparently in good health. Is it a disease? Had I better dig them up, or is it natural for them to turn that color? What fertilizer if any should I use? I have put on what little barnyard manure I had, but it does not seem to be sufficient. The land used to be desert land, and has never had a crop of it before.—J. M., Calexico.

In reply to the above I would say, if it were the lack of fertility in the soil, the best thing to do would be to take out the orange trees, as the growing of oranges on a soil that has not sufficient natural plant food to grow young orange trees, will not be profitable or successful but from description given I do not believe this to be the case.

The trees where leaves and wood turn yellow and the leaves drop, are probably "gophered." The pocket gopher when not interfered with, is one of the most serious pests of the citrus orchard, destroying full grown fruiting trees almost as readily as young trees.

Burrowing in the ground, it opens up long runs underground in every direction. It is a vegetable feeder and its runs are made partially in search of roots of trees and plants on which to feed. In the case of citrus trees it eats the bark of the roots, girdling the main roots and the trunk immediately under ground. In a majority of cases the work is not so thoroughly done but that the tree, though shedding most of its leaves and presenting an unhealthy and sickly appearance, continues to live. In a majority of cases where the tree has been badly gophered, I believe it best to take it out and plant another. With proper care and precaution it is not necessary to have gophered trees in the orchard. The remedy is first to rid the orchard of gophers and then attack them on adjoining lands. This will prevent the occasional loss of orchard trees. The animal has long runs from adjoining lands, often under roadways, into the orchards. The distruction of the gophers working in the orchard is not sufficient as the runs remain and other gophers will use them; subsoiling is beneficial in destroping the runs. A single gopher will frequently open a run into an orchard ten to fifteen rods in length, sending out lateral runs in every direction and attacking many different trees. It is a night-working animal and frequently comes into the orchard and begins work directly under a tree, where in case of an old tree with branches drooping to the ground, it is not readily discovered until it has practically ruined the tree. Eternal vigilance is necessary and the orchard should be constantly and regularly gone over and a search made for the gopher mounds. Where public roads adjoin the orchard the growth of weeds on either side of the road should be removed and the sides of the road kept clean. An alfalfa patch attracts the gophers and is a harbor for them. In some cases complaint is made that cover crops are an attraction and a harbor. In such cases, additional vigilance is necessary, while the cover crop is on the orchard. The above are precautionary measures and the plan of conducting a campaign against the gophers. To destroy them cats are useful but not sufficient to prevent injury to the trees.

Traps and poison are successfully used. I believe from experience that poison rightly used will be the most effective and is the least trouble. There are different kinds of traps in use but what is called the little box trap is one of the best. To use the trap we first find where there are fresh gopher mounds thrown up and by digging find and cut across the principle run setting a trap in both directions from where the run is opened. In the use of traps or poison one thing must be always borne in mind, the gopher has a well developed sense of smell and readily detects the smell of the human hand on the trap or poison. In cleaning out and enlarging the hole for the placing of the trap or poison, a small trowel should be used and the hand should never be used or allowed to touch the soil. A young gopher is very frequently caught in a trap where the one setting it has been careless, but an old gopher will be shy of a trap or poison on which it detects the faintest scent. Rubbing the trap with a young lemon or the leaves of the lemon tree and pushing some of these into the run will be beneficial in disguising any possible scent of the hand. For poison, strychnine is generally used. I prefer the crystals as the powdered strychnine very quickly loses its strength and is not effective. The poison is used on sweet potatoes, apples or oranges, sometimes grain is used, soaking the grain in the dissolved poison and coating it with candied sugar. This latter prevents the evaporation of the poison. I prefer the orange as it is very effective and the scent of the orange disquises the smell of the hand in preparing the poisoned fruit. Cut the orange in halves, powder the crystals of strychnine with a knife and sprinkle on the cut surface of the orange working it into the juice of the orange. Then sprinkling it over with sugar. When the gopher run is cut push some lemon leaves into the run and place a half orange in each end, the cut face to the run and fill in the dirt, completely covering over the run, and then level all gopher mounds in the vicinity. If no more mounds are thrown up we may safely judge that the gopher has been destroyed.

I have found the strychnine used with the orange effective and have in this way protected my own orchard from the work of the gopher. In many localities, following the heavy rains of last winter, there has been but little trouble from gophers as many of them were drowned by the rains. Gophers are most troublesome in the spring, their season of breeding, when the ground is soft from the winter rains and runs are easily made.

How 10% Gross On Every Car Can Be Saved by Growers

Of course you read that news article on page 438 of Nov. 10 issue California Cultivator—well, this tells about it.

Using the New Patented

CYCLONE CAR COOLER

ADDRESS

CITRUS COOLING CO., Chas F. Edson, Mgr.

950 W. 20th St., Los Angeles, Cal.

FOR FREE CIRCULAR

Citrus Trees

The Philippi Nurseries
Rocklin, Cal.

VALENCIA LATE

And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Glendora, Riverside or Redlands, as desired. Address

Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Citrus Trees

In all the standard varieties of oranges and lemons, pomelos and limes, are our exclusive business, hence we stand ready to give you a superior nursery tree at a low price, quality considered. It will be a pleasure to correspond with you if contemplating planting an orange or lemon grove. In the meantime, may we send you our booklet on Citrus Culture?

San Dimas Citrus Nurseries

San Dimas, Cal.

Stop! Listen!

Buy Orange Trees that are true to name. I do not own the largest nursery in the world, but can produce the best trees in the world, and can beat the world on prices, according to quality.

H. M. Cole Third House S. Hill Ave. Pasadena, California

Sunset Phone Main 450

EVERY FARMER KNOWS

that it is necessary to use fertilizers; the only question is as to the method of applying them to the soil.

THERE IS NO QUESTION

in the minds of those who have ever used the **Buckeye Fertilizer Drill** that it is absolutely the best for the purpose. Especially adapted for use in Orange Groves. It puts the fertilizer where it will do the most good, saving time, money and labor. We also have the **Buckeye Grain Drills**—nothing better on earth. Write to us or call at our new store.

WE ALSO SELL

the **John Deere Plows and Harrows.** Better than ever.

Hawley, King & Co.

224-228 South Los Angeles St. Los Angeles

ORANGE TREES

Oldest Established Citrus Nursery in California, at Alhambra, Los Angeles County

Late Valencia and Washington Navels, Lisbon and Eureka Lemons. Guaranteed true to name. No better trees in this State. Lowest market price. Three-year buds, four-year roots. Horticultural Commissioner's certificate. Order early, as good trees are scarce. Inspection invited.

E. G. Wood, Owner, at Nursery or Room 732 Huntington Building, Los Angeles, Cal.

DRIED GROUND TANKAGE

THE BEST AND MOST ECONOMICAL FERTILIZER

ANALYSIS { 10½ per cent Ammonia
{ 18 per cent Bone Phosphate

WRITE US FOR PRICES AND PARTICULARS

Western Meat Company - - San Francisco

CALIFORNIA FERTILIZER WORKS, Inc.

538 CLAY ST., SAN FRANCISCO, CAL.

SPECIAL FERTILIZERS MADE TO ORDER

As we produce our own Bone, Blood, Tankage, Sulfuric Acid, and manufacture our own Phosphate, we can sell high grade commercial Fertilizer at low rates.

MANUFACTURERS OF

Pure Bone Meal and Complete Fertilizers

Producers, Importers and Dealers in Fertilizing Material of All Kinds. Send for our prices before buying elsewhere, and you will save money.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

SEASONABLE HINTS.

Do not be in a hurry to fertilize your lawn, the present cold weather is good for the grass, it gives it a resting period. The great disadvantage of fertilizing too early is to force a nice green growth at the time we are expecting our cold weather and the consequence is it makes a spurt, and when it should look nice in the early spring it stops growing and looks brown. It has been forced from its natural resting time and the tender growth is frozen and it takes its rest toward spring when the fertilizer has exhausted its forcing qualities. February and March will be found the best time to manure the lawns and from that time there will be a luxuriant growth until winter.

* * *

Where large beds and borders of cannas, cyperus, papyrus, Caladium esculenturn (elephant ears) have not been disturbed for two or three years, it will be found advisable to dig up the cannas and caladium and store them away until April and the large clumps of papyrus and cyperus can be divided up and replanted in the border when it is spaded up or divided in the spring. The above-named plants can stand any amount of fertilizer, dig up the beds as deeply as possible and turn under from four to six inches of well rotten stable manure, leave the beds rough and by spring they will be in a good friable condition to replant.

Plant the cannas in small clumps about three or four crowns to each, the caladiums the same. April will be a good time to put them in, and during summer and fall you will have a luxuriant tropical effect. Should you not take them up, mulch them well and spade in plenty of manure in early spring.

* * *

Now is the time to attend to the manuring and spading up of all vacant beds and borders. After spading, leave the ground in a rough state, that is don't rake it down, as the sun and air will do more good, and it will leave the ground in a more friable condition than if raked down too smooth. Don't be afraid to enrich abundantly as the ground will be in better condition for spring planting.

THE CHRISTMAS GARDEN IN CALIFORNIA.

The December garden need not be bare, though it too often is, even in California. Violets, started into new life by September rain or irrigation, will fill the air with fragrance. Hardy bulbs, like narcissus and others, freely open their cups and tubes to catch the raindrops. The geraniums are gorgeous. Roses and chrysanthemums still linger—in fact, an innumerable host of blooms may cover the garden, if the planter plans for them. The brilliant red of the toyon, or California holly berries, in their evergreen settings, will always be our formal Christmas decorations, but the California home garden will fill the vases or shower the table with many hues and forms of beauty, without recourse to the conservatory, if one but gardens wisely and devotedly.

There is much garden work to do in December which is, to a degree at least, distinctive. Deciduous trees and shrubs are nearest to dormancy and, therefore, in good condition for pruning and for propagation by hardwood cuttings. Roses, which are encouraged to autumn bloom by the treatment prescribed last July and August, are now entering upon their longer rest, and may be thoroughly handled for shape and for the growth of new wood. Thrust sharp shears, then, into the brushy bushes and cut out, close to the roots, old wood which has done its work and save enough of the younger stems to renew bush-form, selecting both for strength and position, so that new shoots, soon to come, shall have space to develop and contribute to symmetry.

To the skilfull pruner a well-pruned bush has a peculiar beauty, because it suggests future shapeliness and vigor, while to the uninitiated it may be but an ugly bunch of prongs and stubs. Try to realize this and you will find a deeper significance in pruning and learn how to do it rationally. Standard shrubs and fruit trees are, in a way, treated differently from those in bush-form, but the principles of preserving symmetry, renewing wood for vigor and spacing for opportunity are still to be applied. The bright December days, sharp tools and keen interest make pruning study and practice particultrly delightful.—E. J. Wickson, in Sunset Magazine.

NATURE STUDY IN RURAL SCHOOLS.

"Give fools their gold, give knaves their power,
Let fortune's bubble rise and fall;
Who sows a field or trains a flower
Or plants a tree, is more than all."

For country schools, the study of the science of Agriculture and the practice of the art at home provide much for head, heart, and hand. Elementary Agriculture, as a science, puts the pupil in possession of scientific facts pertaining to soil, water, plant and insect friends and foes, cultivation, drainage, domestic animals, etc. Traditional practices of the art must run the gauntlet of scientific tests. The early study of elementary Agriculture fixes the cardinal facts at a period of life when the mind is most impressionable.

When scientific facts are known, the individuals adapt themselves more easily to conditions if he succeeds in his business. The element of pleasure that comes from overcoming difficulties and from seeing long-looked-for results must be in the mind of the laborer; if not, that which is work becomes drudgery. A farmer should work, not drudge.

The introduction of nature study and elementary Agriculture into the rural schools will furnish one means of elevating the child from a life looked upon by many as ignoble to one that is really noble.

BULBS IN GENERAL.

Any time during the next thirty days will do for the planting of nearly all spring flowering bulbs. Hyacinths are best planted during December. Plant them about three inches deep and afterwards mulch the beds with well rotted manure.

It is a good plan to put a handful of good sharp sand under all bulbs planted in the fall, for it lessens the chances of decay and allows the roots a better start. In the case of lily bulbs it is also a good plan to drop some sand on the top of the bulb; it is much better to fill the interstices between the scales with sand than to have them full of soil containing decaying vegetable matter.

Ranunculus have been improved so much of late years that they are among the best we can grow. The same is true of anemones and the treatment required in each case is the same. Both kinds should be soaked over night before planting to insure success, and plant them from one and a half to two inches deep.

Sparaxis and ixias are very popular, though the flowers are small and are very easily grown, being so persistent that they flower without care after appearing above ground. These should be planted about one inch below the surface.

Of all winter bulbs the narcissi are the writer's favorite, next to the lilies, and are only second to them in appearance. They are not so stiff and conventional as the hyacinths, are tougher, and have a longer period of bloom. They will do fairly well in any soil and will grow under almost any treatment, though responding nobly to proper care. No class of bulbs of late years have been brought to such a standard of excellence and the cost of all the best sorts is quite low; so if you once get a stock you will alwavs have them if proper care is taken.

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN
HAS REMOVED TO
345 SOUTH MAIN STREET
HEADQUARTERS FOR SANTA BARBARA SALT-BUSH (ATRIPLEX BREWERI)

THE "BOSS"
TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

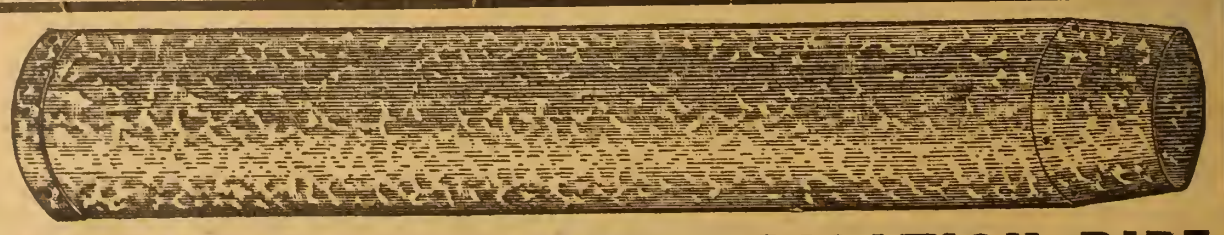
YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.

Greatest National Bank West of Denver and South of San Francisco
First National Bank
United States Depository for Government Funds

CAPITAL, $1,250,000.
SURPLUS AND UNDIVIDED PROFITS, $2,860,000

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

OFFICERS
PRESIDENT—J. M ELLIOTT. VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS. CASHIER—W. T. S. HAMMOND. ASSISTANT CASHIERS—A. C. WAY, E. S. PAULY, E. W. COE, A. B. JONES.
First National Bank, Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of Ten Feet from Single Sheets. Let us prove to you that we make Pipe and Tanks Right. WRITE FOR CATALOGUE.
TALLERDAY MANUFACTURING CO.
210 No. Los Angeles St. Los Angeles, California
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

In the Vegetable Garden

POTATO HISTORY.

Perhaps no single article of human diet has a more interesting history than the Irish potato, or Solanum tuberosum. It belongs to a very numerous family, there being, according to good authority, 600 species of Solanum. Very few of them, however, form tubers, and still fewer are edible. According to Humbolt, this esculent tuber was cultivated from Chili to New Granada at the time Columbus discovered America. Nearly 100 years later some of the colonists sent out by Sir Walter Raleigh returned to England and Ireland from North Carolina and Virginia, taking with them some of these tubers. About the year 1586 they were cultivated on the estate of Sir Walter near Cork, Ireland. The new vegetable rapidly came into favor with the Irish peasantry; but, judging from the following, which is taken from the Encyclopedia Britannica, under "Ireland," it seems it was by no means an unmixed blessing:

"Toward the end of the 17th century Raleigh's fatal gift (the potato) had already become the food of the people. * * * The poor squatted where they could, receiving starvation wages and paying exhorbitant rents. Unable to rise, the wretched people multiplied on their potato plots with perfect recklessness. During the famine which began in the winter of 1739 one-fifth of the population is supposed to have perished. *. * *

"No political cause swelled the population as much as the potato. Introduced by Raleigh in 1610, the cultivation of this dangerous tuber developed with extraordinary rapidity. * * * The labor of one man could plant potatoes enough to feed forty. Early in Charles II's reign this demoralizing esculent was already the national food. Potatoes can not be kept very long, and there was no attempt to keep them at all. They were left in the ground and dug as required. A frost which penetrated deep caused the famine of 1739. * * * In 1845 the population had swelled to 8,295,061, the greater part of whom depended on the potato only. There was no margin, and when the 'precarious exotic' failed an awful famine was the result."

The ills of Ireland are laid to the door of Raleigh's Solanum tuberosum, on account of the ease of its production and its great prolificacy, thus causing a degree of indolence and increase on the part of the poorer classes, which were indeed appalling in their consequences. In this country the potato is one of our most important foods, but not our whole dependence, by any means, as it formerly was in Ireland.

GOOD LETTUCE.

There is hardly a vegetable that wears as well in people's favor as lettuce. T. Grenier says in Farm and Fireside that his family sometimes have it on the table once a day for weeks, and even months, right along, and we do not seem to tire of it. Of coure, we have it in prime order. "I do not want, and would not relish very much, the stuff that one finds so often on the market stands. I want it fresh and crisp, and then I only want the perfect, and preferably the inner, leaves, which are to be dressed with a little of the best olive oil that the market affords and with our own home-made clear cider vinegar. To my taste the garden affords no greater delicacy, especially when we have nice mealy potatoes and some good baked fowl or broiled steak to eat with it. In order to have first-class lettuce, however, we must in the first place have a good variety, and then give it the right treatment. Fortunately there is a long list of really fine lettuces, and it would be even a simple task to make a good selection if we would revise our long list of varieties and reject all mere synonyms. Just at this time I have the Black-Seeded Tennisball in perfection. This old English variety has been nearly fifty years in cultivation in the United States, and even at this time it is one of the four varieties most extensively grown, especially in the East. But it is offered in the catalogues of American seedmen under upward of forty different names. You may plant all of these and you will have nothing but a strain of old Tennisball, and in every case a good and reliable sort, perhaps as good as anything there is in existence Then if you plant it in early spring, in summer, or almost at any time, in very rich soil, where it has a continuous supply of moisture, you will most likely have good-sized heads that are as solid as a cabbage and as brittle as glass, and most delicious as a salad. The application of a little nitrate of soda broadcast to the plants set out in open ground in April has seemed to be of much assistance in making rapid and tender growth.

THE NEW ONION CULTURE.

Much has been said and written concerning the new onion culture, and amateurs often are made to think it some difficult process of growing onions. The new onion culture simply is the sowing of the seed under glass in a hotbed, and transplanting the plants into open ground. While I have had no experience in growing the crop on an extensive scale, yet on a small farm, where land that is in proper state for growing of that crop is limited, and where it is grown on a small scale, I find the new method renumerative. While the transplanting involves considerable labor, the saving of considerable hand weeding, the possibility of a perfect stand, the economy in the amount of seed, and the increase of the yield under this method recommend it to everyone growing the crop.

Experiments at the Ohio station gave the following results: Ten selected Prize-taker bulbs weighed eight pounds four ounces; the same number of bulbs not transplanted, four pounds four ounces. Pompeii, transplanted, seven pounds one ounce; Yellow Danvers, transplanted, five pounds; not transplanted, two pounds six ounces. Transplanting gave a decided increase with each of the fourteen varieties tried, amounting to 100 per cent in some cases.

At the Michigan Station transplanted Prize-taker gave a yield of 548 bushels per acre, while those not transplanted yielded only 216 bushels. Red Weathersfield onions at the Tennessee Station yielded 823 bushels when transplanted; not transplanted, 206 bushels.

These increases in yield ought to appeal to everyone who is interested in making his acres bring the most possible returns for both labor and seed.

FERTILIZING POTATOES.

Fresh stable manure, especially when harrowed in, tends to produce such diseases as scab, blight, and rot, and should, therefore, be applied, if possible, to the crop preceding, and enough used to provide for the needs of both crops.

The potato thrives best in a cool, moist soil, and, unlike the corn crop, roots quite deeply. It is therefore recommended that stable manure be plowed in for the above-mentioned reasons, and also to prevent the germination of the weed seeds contained in it, thus greatly reducing the cost of hand cultivation.

When a crop is to be grown on freshly broken sod, the best results will generally be obtained by plowing in a light application of stable manure, and using in the drill 8 to 10 cwt. per acre of a good high-grade fertilizer.

Chemical Fertilizers.

In large potato-producing sections, where the supply of stable manure is limited, many growers are obtaining splendid results from the exclusive use of chemical fertilizers, using about 1,500 pounds per acre. Where the physical condition of the soil is poor we should recommend plowing under a crop of clover, peas, or other legumes, and the application of 12 to 15 cwt. per acre of a high-grade fertilizer. In using either stable or chemical manures an excess should be avoided, as it tends to produce an overgrowth of vines, which invite and spread the attacks of the blight.

One hundred pounds of potatoes contain about 12.6 pounds nitrogen, 4.5 pounds phosphoric acid, and 30 pounds potash.

The knowledge of the analysis of the crop is of little value to the grower until he has studied his soil and learned its needs; but knowing both, he will be able to apply at the lowest cost the proper amount of plant food required to produce a full crop.

SOIL FOR POTATOES.

The ideal potato soil is deep, friable, retentive of moisture, and well drained. Heavy clay and very light sandy soils should be avoided. Stony land renders planting and cultivating difficult and expensive. The presence of decaying organic matter in the soil not only furnishes valuable plant food, but also increases the water-holding capacity. Everything else being equal, a northern slope would be preferred to a southern one, except when grown for early use, as the crop is sometimes badly injured by the intense heat increased by a southern exposure during a hot, dry season.

GOOD, big "mealy" potatoes can not be produced without a liberal amount of POTASH in the fertilizer—not less than ten per cent. It must be in the form of Sulphate of POTASH of highest quality.

"Plant Food" and "Truck Farming" are two practical books which tell of the successful growing of potatoes and the other garden truck—sent free to those who write us for them.

Address, GERMAN KALI WORKS, 93 Nassau St., New York

Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

Strawberry Plants

200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address F. S. Lee, Pasadena, Cal. Phone Main 922

LAXTON'S NOBLE STRAWBERRY PLANTS

35c per 100, $2.00 per 1000. Order before Jan. 1st

THE HOUSTON BERRY FARM

235 Colton Avenue - - Riverside, California

Berry Vines

Logan, Burbank's Mammoth Black, Phenomenal. Prices on application

Isaac Martin Merle, Cal.

BRANDYWINE PLANTS

Brandywine Strawberry Plants for sale, Kellogg's strain. No better nor thriftier plants grown. Clean of all disease; at bottom prices.

G. W MULLENDORE, COVINA, CAL.

IMPROVED GARDENA DEWBERRY

And all other kinds of Berry Plants. Nursery Stock for sale.

A. R. Rideout, Magnolia Nursery, Whittier, Cal.

Berry Plants

Brandywine Strawberry, Cuthbert Raspberry, Crandall Blackberry and Loganberry Plants.

Toluca Nursery. Toluca, Cal.

Vigorous Strawberry Plants

For Sale. 100,000 Excelsior and 300,000 Brandywine. Stock direct from R. M. Kellogg last April. Also Red Raspberry Plants.

R. De Young, R.F.D. No. 1, Pasadena, Cal.

BURBANK'S Crimson Winter Rhubarb

OUR SPECIALTY

$1.50 per dozen, $7.50 per 100, $50 per 1000

WAGNER'S NURSERY

PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

BERRY PLANTS

100,000 Brandywine Strawberries (Kellogg strain) $3.00 per 1000. 50,000 "A 1" Strawberry Plants, $3.00 per thousand.

50,000 Gray's Gardena Dewberries, $8 per 1000.

Raspberries, $8.00 per 1000.

Loganberries, $8.00 per 1000.

All raised on virgin soil and first-class plants.

A. E. HARRINGTON

R. D. NO. 6 LOS ANGELES, CAL.

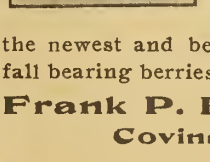
STRAWBERRY PLANTS

(TROPICO BEAUTY)

The very best Brandywine stock at low prices for sale by the grower,

D. Griswold, Box 25, Tropico, Cal.

BRANDYWINE "A 1" **STRAWBERRIES**



250,000

Strong Growing, Thrifty Plants for sale. Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.

Frank P. Baldosser, Covina, Cal.

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

Room 416, Hearst Building, San Francisco. Cal
115½ North Broadway (upstairs), Los Angeles

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line. $1.12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1¼ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to	10	Lines	15	cents	per line
11 "	50	"	14	" "	"
51 "	100	"	13	" "	"
101 "	500	"	12	" "	"
501 "	1000	"	11	" "	"
1001 "	1500	"	10	" "	"
1501 "	2000	"	09	" "	"

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 15, 1905

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

CONTENTS.

	Page.
Fruit Growers in Session	555
Work on Pear Blight	556
Early Northern Oranges	556
Chemistry of Soils	557
Nutrition of Plants	557
Deciduous Fruits of 1905	558
Gophered Trees	559
Seasonable Garden Hints	560
Nature Study in Rural Schools	560
All About Potatoes	561
The New Onion Culture	562
Coast News Notes	563
In the Dairy	564
Angora Goats	565
Incubator vs. Hen	567
Alameda Poultry Show	570
Queries and Suggestions	571
Household	572
Markets	574
Veterinary	575

FARMERS' INSTITUTES.

Compton, December 18-19.

Other institutes will be announced later.

CURRENT COMMENTS.

Demoralizing Condition.—The Cultivator has no time nor disposition to mix in the contention going on between the California Fruit Growers' Exchange and the Citrus Union. Charges of misconduct of the business, prejudiced to the interests of the citrus growers is made against the Exchange by the Union, which is passed back, of course, by the Exchange. One thing must be borne in mind. The members of the Exchange will not stand abuse by its agents nor its managers. High salaries must not be paid. Rebates must not be permitted—except they are shared in by the membership.

The time has come when the grower and not the officials of these citrus organizations, nor the agents thereof, must derive the benefits of a clean, honest, conservative method of doing business. As soon as it is apparent that the grower is not receiving his just deserts investigation should be instituted and officials changed.

As said above the Cultivator will not mix up in a "scrap" between competing organizations, but if it shall appear that the growers are being deceived, in any way, it will be the duty of this paper to ask some questions. And it will!

* * *

Agricultural .College .Again.—The State Fruit Growers' convention at Santa Rosa, last week, discussed freely and at length the question of the location of the State agricultural farm. As in some former conventions of different bodies, representing the agricultural interests of California, strong ground was taken against locating the farm at Berkeley, and after a spirited discussion the following resolution was adopted:

"Whereas, the State Legislature, at its last session, passed a bill appropriating $150,000 for the purchase and equipment of a State farm to be under the jurisdiction of the Board of Regents of the State University; and,

"Whereas, efforts are being made to locate the farm close to Berkeley, and make of it a laboratory venture; and,

"Whereas, such a plan is opposed to the intent of the framers of the bill and the wishes of the horticultural interests of the State; therefore, be it

"Resolved, that we declare it to be the sense of this convention that the farm should be located away from Berkeley and conducted in a manner that will enable the horticultural interests of the State to obtain practical benefits."

It is very evident the agricultural bodies of the State are a unit against locating the farm near the university, the argument being as heretofore stated by the Cultivator, that the farm does not want college professors to manage it, but practical farmers with liberal training and actual operation experience. In the face of such decided opposition the farm is not likely to be located at or near the seat of the State University.

* * *

Senator Mitchell Dead.—The ending of the life of Senator Mitchell of Oregon is pitiful indeed. After fifty years of active service to his state he lays down his life under most distressing conditions. Convicted of defrauding the government in public land conspiracy, with sentence of punishment hanging over him, he dies dishonored and unlamented by the state he has so long served.

His death was of comparatively sudden occurrence, resulting from hemorrhage caused by the extraction of teeth, as told in the dispatches. Death was hastened by Mr. Mitchell's weakened condition, due in part to the infirmities of age (he was past 70,) and in part to recent misfortunes and worries.

Having passed from the scene of his earthly activities silence best befits him now. The public he has wronged will soon forget his memory except to recall it and speak of it as best to be let alone.

* * *

Ownership of Railroads.—We hear the argument frequently advanced that it is a mistake to attack the railroads in their rate schedules because they are owned by the people and the growth of the country is measured by their development. Not long since a table of figures was given by the Railway Age, to prove the wide ownership of roads by the people, and following this appeared articles in various newspapers advancing the argument that in fact the roads of the country are in the ownership of tens of thousands of our common people and not strictly owned by groups of financiers, as has been supposed.

As may well be understood, in times of prosperity and easy money, investments are made by a vast number of individuals among all classes, ranging from small amounts to large holdings. But far exceeding these invested sums are the holdings of railroad stocks by the banks, big life insurance companies, trust organizations and kindred institutions.

* * *

The late investigations relative to life insurance companies have developed the fact that the great financial magnates of the country have their hands in the management of both the railroads and the insurance companies and are the arbiters of both. They absolutely control and direct the funds of each without regard to who may have holdings therein. The boards of directors are usually the same, and they proceed, so far as the individual stockholder is concerned, as if he were a minus quantity—which he is. Why, therefore, argue that it is best to let well enough alone, when the fact is apparent that the public has no voice in the administration of the railroads?

The line of reasoning is plausible, we grant, but not well taken. The premises are falsely laid down. There is no desire on the part of the public to injure the railroads of the country, and there ought not to be. They are as necessary to the development of the Nation as any other interest, and if the spirit of railway administration will rise to the needs of the times, grant equitable rates, purify itself of all secret abuses, the country will be satisfied and the earning power of the roads vastly increased, not diminished, as is now claimed.

Why?

Because a more equitable rate will insure added volume of business and consequent increase in toll tonnage. More than this, it will give a juster distribution of the net earnings of the roads to the common people—if the common people are really the owners, as we are asked to believe they are.

Senator Dolliver, of Iowa, answers the policy of this claim by saying: "The very fact, if it be true, that the public is so deeply interested in railway investments, strengthens the argument for administration reform, for if the people are, in actual fact, the real owners of the railway systems, as the figures purport to prove, then most assuredly are the people entitled to a full say in the matter of railway control."

The fact that the public is so strenuously demanding reform in this matter refutes the assumption that the people are generally investors in railroad stocks.

"It is all very well to marshal figures," says a writer in the Times, "to show that it is the general public and not the rings of railway magnates that really own the railways." But when the figures are examined the cold fact remains that it is the magnates who are in sole control, and, as recent disclosures have made manifest, are also, through nominees on boards of directors, in control of the investment companies that place the savings of the people at their command. The scattered individual investors, and still less the investors whose interest in the railways is indirect, as through the medium of an insurance company, have not the slightest share or part in the present system of railway administration.

So some other invention will have to be resorted to to show the country that it is to the general interest to let the present conditions governing rates and rebates alone, for if no better argument can be advanced than the one that the people are the owners of the railroads, and not the magnates, there will surely be a general overwhelming of railroad rates, for it is the people who are demanding the reform now, not the magnates.

* * *

The Senate of the U. S.—William E. Curtis the veteran newspaper correspondent in looking over the senate of the United States makes these observations on the membership of that body. He says:

"As one looks over the senate chamber from the reporters' gallery it does not seem to be filled with big men. Perhaps the present occupants of the floor are as good and as useful as their predecessors. Perhaps it is better for the country to have practical rather than brilliant senators. But the closest inspection cannot discover any such great men as Oliver P. Morton, Allen G. Thurman, Roscoe Conkling, James G. Blaine, John Sherman, George F. Edmunds, L. Q. C. Lamar, William M. Evarts and George F. Hoar. It is not necessary to go back to the time of Webster, Clay, Calhoun, Sumner, Breckenridge and Fessenden for purposes of comparison. I do not suppose there has ever been a more useful man in public life than the Hon. William Boyd Allison, who has served longer and done more hard work and accomplished more useful legislation than any other man who ever sat in the United States senate or any other legislative body in the world. He may not be as big as Alexander; he may not have made as much noise in the world as Julius Caesar or Constantine the Great, or so much trouble as Napoleon, but none of those men ever passed as many laws or appropriated so much money, or performed more solid, useful, everyday service for his country and mankind as "The Old Gray Owl" from Iowa."

The most important measure before congress is rate legislation and it has come to be practically a foregone conclusion. As the president states in his message he has no feeling of hostility to corporations and is not the advocate of any drastic regulation policy. He simply holds that certain abuses have been permitted which must be remedied, and that the basic principle of any proposed system of regulation must be that of justice to all parties concerned.

In due time the president will bring the Panama canal question to the attention of congress in a manner which it is safe to say will clearly demonstrate that he is in earnest about having that project pushed and gotten well under way before the close of his administration.

There will be no tariff legislation at the present session. Free trade between the United States and the Philippine islands may be established—something which The Capital has from the first contended that the logic of the situation demanded. But the schedules of the Dingley law will remain untouched. There is no demand for any changes and members of congress will be loth to assume responsibility for the commercial and industrial perturbation which would be sure to obtain in case a general tariff ripping crusade were inaugurated.

There will be much for congress to do, and it may be with propriety said that there is much which congress should not do—one of the hardest things for a legislative body to learn.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The Placentia Orange Growers' Association will ship four carloads of oranges this week.—Fullerton News.

A carload of grapes from Santa Cruz County last week in Chicago for $2,080. That is good round price.

The product of the entire number of packing houses in Upland is now about ten cars of lemons and fifty cars of oranges per week.

Kingsbury, Tulare County, Recorder is authority for the statement that $75,000 worth of grapes were received at the packing house this season.

The Sierra Madre-Lamanda Citrus Association has shipped several carloads of early oranges East. The fruit is well colored and well sweetened.

Something between $40,000 and $50,000 was distributed among the raisin growers of Tulare last week. This will be the windup of the sale of layer raisins.

The apple crop at Oakglen and in that vicinity this season is surprising all previous records. The output will be more than 400 tons, according to word given by one of the largest growers there.

Secretary Willson, of the Santa Ana Chamber of Commerce, has shipped to Los Angeles a fine addition to the exhibits from this county, including a 180-pound pumpkin and some fine oranges and lemons. So says the Bulletin.

The shipments of citrus fruits from Orange depot of the Santa Fe for the week ending last evening, were twenty-two carloads. The total shipments from Orange for the year ending November 30th,—when the company's year closes,—were 707 carloads.—Orange News.

Many farmers who have uplands are preparing to plant vineyards next year, and the beginning of an industry that means a great deal to this community is well under way. We know of one man who intends to plant thirty acres and others are contemplating larger and smaller amounts.—Ukiah Times.

If all the apples shipped from Pajaro Valley this season were forwarded at one time they would make a solid train nearly seventeen miles in length, exclusive of the ninety-six big engines that it would require to haul this immense load of apples over an ordinary track. The string of engines would be about three-quarters of a mile in length.—Pajarian.

The Porterville Enterprise summarizes the orange and lemon shipments from Tulare County from October 28 to December 7 as follows: From Porterville, 392 cars of oranges, 12 cars of lemons; from Lindsay, 419 cars of oranges, one car of lemons; from Exter and Lemon Cove, 264 cars of oranges, 57 cars of lemons. Total, oranges 1,075 cars. lemons 68 cars.

J. H. Reed, says the Riverside Press, is in receipt of a letter from G. Harold Powell of the Department of Agriculture, who spent last winter here investigating the causes of citrus fruit decay. Mr. Powell writes that he will be here shortly before the holidays accompanied by two experts and take up again the work undertaken by him last year and which promises to be of such signal value to the citrus industry of California.

Orange picking at Orangevale has been goig on for a month, and some of the finest fruit ever grown in California has this season been shipped. Orangevale is one of the oldest orange-growing districts of Northern California, and with the planting to citrus fruits of communities of more recent growth has more than held its own. The trees of Orangevale are fine and healthy, and have attained a fine example of what other Northern California communities can do in citrus fruit culture.

Alden Anderson, Lieutenant-Governor of California and general manager of the California Fruit Distrubu-ers, the organization which ships and routes the bulk of the green fruit, has compiled some interesting figures about the season's shipments and has compared them with last year's business as follows, the figures representing carloads:

	1905.	1904
Cherries	79	209
Apricots	279	97
Peaches	1,946	559
Plums and prunes	1,391	1,053
Pears	1,013	2,186
Grapes	1,602	1,451
Apples	1,744	43
Quinces, persimmons, figs	17	28
Totals	8,071	5,626

All of this fruit is shipped in carloads of 24,000 pounds, with the exception of apples, which are loaded to the extent of 26,000 pounds per car. Expressed in another way, therefore, during the season just closed 197,192,000 pounds of green fruit were shipped East, as compared with 135,110,000 pounds for the season before, a gain of 62,082,000 pounds.

AGRICULTURE.

Turlock will ship 400 carloads of sweet potatoes this season.

The price of hay at Hollister has dropped two dollars a ton since last week's rain.

Visalia is to have a 350-ton beet factory ready for the crop of 1906. It will cost $400,000.

Three hundred and twelve carloads of potatoes were shipped from Stockton the first week in this month.

L. Smith of Santa Rosa sold, last week, half his hop crop for 11 cents per pound. There are 6,000 bales to ship yet.

Prof. E. J. Wickson says: Australian rye grass seed is usually sown at the rate of fifty pounds to the acre and it is not usual to sow it with alfalfa, as the latter seems to do better by itself.

The Holister Free Lance is criticizing the Spreckels factory for reducing the price of next season's beet crop. The price has been set at $4.50 per ton, which the Free Lance says will materially shorten the acreage promised.

They have a great county—that of Santa Cruz. Last year it produced cereal products, $978,013; fruits, vegetables, grapes and berries, $2,920,635; dairy products, $391,500; livestock, $310,010; poultry, $94,105; fish, $79,562; forest products, $947,469; manufactures, $2,086,603; wine, beer, etc., $131,292; miscellaneous, $108,729. Total, $7,195,918.

Lima beans are rising in price. One lot sold at Ventura recently at $4.10 per hundred. Most of the beans grown in the county have been sold and shipped, but there are yet a number of growers who are holding for $4.50, while some expect $5.

On account of their being infected with scales formed by a parasite dangerous to native fruit, State Horticultural Commissioner of Tacoma has ordered the local fruit inspectors to fumigate all Japanese oranges received at Puget Sound ports recently.

"The average yield of beets per acre last year, throughout the whole United States was 10.47 tons. It is fair to assume that a good farmer in a fair country will obtain at least 12 tons per acre, some will get as high as 20, or even 25, but we will say the average is 12 tons. Our sugar company at Visalia will pay $4.50 per ton for all beets delivered at the factory, then the farmer receives on an average of $54.50 per acre for his beets, less 25 cents per ton for freight, the company building and maintaining a loading and weighing station at the depot at their own expense.—Tulare Register.

LIVE STOCK.

The sheep owners of Solano County have determined to kill off the dogs that have been destroying their flocks. Many hundreds of dollars' worth of sheep, however, have already been killed by the dogs this fall.

The Downey Dispatch tells us that J. H. Stone of that place has shipped this year 5,275 cases of eggs, which would make 158,250 dozens, at a total cost of $47,475. The eggs averaged 30 cents a dozen for the entire lot.

The express shipments for last week from Escondido, the Times says, were 4,623 pounds poultry, 41 cases eggs. 410 pounds cream, and 365 pounds butter. It will be observed that the shipment of eggs is increasing in volume, and this will continue for several months, probably till May, when the climax is reached.

MISCELLANEOUS.

The Orosi Rochdale Company was incorporated last week, with thirty-four members.

The new cannery at Gilroy will employ from 500 to 600 hands. So says the Mountain View Register.

Work has begun on the erection of a glass factory at Monterey that will give employment to 300 hands.

Chino has received a section of the State circulating library from Sacramento, and it is now open to public use.—Champion.

The town Trustees have accepted the gift of the $10,000 donation from Andrew Carnegie for the building of a new library for Red Bluff.

There is a strong probability that large smelting works may be established at Chico for the reduction of iron ore.

The government dredger is pumping free coal from the bottom of the sea. The San Pedro people are carrying it away in baskets.

The Bakersfield and Ventura railroad engineers have completed one survey over the Cahuenga Pass into Hollywood.—San Fernando Press.

Hubert Howe Bancroft has sold his valuable reference library to the University of California. This library, consists of over 60,000 volumes.—Salinas Index.

The Santa Fe has ordered the abandonment of all its smoking cars and has ordered fifty-five new ones made of iron and steel for the better protection of life in case of accident.

The Palo Alto Board of Trade has prepared a tree planting ordinance to be presented to the town Trustees, to the end that a systematic plan of beautifying the town might be followed.

A snail farm is to be started near Stockton. The demand for snail soup is quite general in the cafes of San Francisco, and the proprietors of this industry expect to make a neat income out of their undertaking.

The Superior Court of Orange County has confirmed the sale of 14,000 acres belonging to the estate of the late Marcus A. Foster. The purchaser is William Graves of New York. The consideration is $198,000.

William J. Browning of Tipton, Tulare County, who owns the most unique farm in the world, a jackrabbit farm, says the Bakersfield Echo. Mr. Browning has a 1,400-acre ranch near Tipton, where he raises rabbits for coursing parks all over the country. He has now 2,800 rabbits.

Shipments of salmon eggs from the Battle Creek Fishery at Anderson are being made daily to Sisson. From 500,000 to 1,000,000 are sent at one time. There is a good run of salmon this year, and up to Sunday of last week 20,000,000 eggs had been taken, averaging about 1,500,000 daily.

The recent fall of snow in the Sierras has caused the shutting down of the sawmills in El Dorado County. The sawmills were operated longer than usual this fall on account of there being no heavy storms until late. The amount of lumber cut by the sawmills this year in El Dorado County is about 60,000,000 feet.

An appropriation of $11,000,000 was voted by Congress on Saturday toward the construction of the Panama Canal. The amount was a compromise between the $16,500,000 carried in the bill under consideration, and an estimate of something over $6,000,000 recommended by Mr. Williams, to carry on the work until the middle of January.

Security Savings Bank

LARGEST SAVINGS BANK IN SO. CALIFORNIA

Those unable to visit the bank in person may open their accounts and transact all their banking business with this institution by mail.

4% INTEREST PAID ON TERM DEPOSITS

HERMAN W. HELLMAN BUILDING, LOS ANGELES, CAL.

Write for booklet "A" on banking by mail. Rainfall Chart and 112-page Atlas sent free.

C. H. SESSIONS, ASSOCIATE EDITOR

IN THE DAIRY.

One of the most progressive states in the Union, on general agriculture, is Kansas. It is a state of diversified industries but it keeps abreast of the times on every subject relating to stock, dairy and farming.

The Cultivator is under obligations, this week, to Editor E. B. Cowgill of the Kansas Farmer for an article, with illustrations, on the method of obtaining the most milk and best results from manipulations of the udder in milking. We commend the careful reading of the article to all dairymen and especially to beginners. The article is as follows:

The fixedness of the amount of fat in a cow's milk makes it necessary to watch the breeding, for by a change of blood we can lower or raise it in one generation very markedly. The slight increase in butter-fat, the second year that a cow is in milking, often deceives people into thinking that this is not true, but this rise is due to the superior care and feeding a cow receives in enabling her to reach her limit, for the concentrated food gives her all she can assimilate of milk-producing food. In the Holstein the change of form is often marked, the heifers sometimes are so coarse and beefy that one is a little ashamed of them, but when they have had their second calves they come to the milk form rapidly and make good cows. Several that were of this type are now in the Advanced Registry with creditable official records.

The milking of cows is of as much importance as the feeding. Where one has a large herd, a prize of a dollar a week to the milkers whose cows do the best, when the milk is on the increase, or whose cows fall off the least, when the milk is decreasing, gives good results. One of our neighbors thought he would try this plan. He also ran a hotel in town, which the home farm supplied with milk. At length, the cook remonstrated with him, as the milk was growing thinner every day. There was no foreman over the milkers, and they found the pump very handy to increase the milk-yield.

There is a serious loss in allowing the cows to go dry too soon, and to remain dry for several months. Six weeks is long enough for a cow to be out of milking, and heifers must be milked up to this time if they only

Fig. 1.—Correct Milking.

give a quart a day, or else each time they freshen they will go dry at the same period. We never believe in forceful drying off of cows, by giving them alum internally, or by starving them, or by rubbing camphor on the udder; any of these ways of stopping the secretion of milk should be looked on with suspicion. Nature knows best and it is safer to follow her indications. We feed the cows right along; if they go dry before calving, we allow them to do so, but without any drop below a gallon of milk at a milking, they are milked regularly without any attempt to dry them off. The idea that milking the cow stunts the calf does not hold good if the cow is fed. Of course, if the cow is starved she will drop a feeble calf. This is not theory, but learned by hard experience and the spoiling of a few cows. Some extra good cows that we sold fell into the hands of a theorist and he forcibly dried off some of them, so that they have not recovered their full milk flow. One cow that at full flow of milk gave 75 lbs. has only a record of 50. She has made three pounds of butter a day; now her highest record is only a little over two pounds. Forcible drying off will ruin many Durhams, Ayrshire and Holstein cows, or any cows that are giving a large volume of milk.

The older dairymen were wise in insisting on stripping the cows. We have had to come to it, as a practical necessity for it is easier to have one good head milker who by stripping the cows can keep the other men milking clean, for where the stripper comes along any slackness is at once discovered.

The time spent in stripping is fully paid for by the extra fat obtained. As the cows are usually left by the ordinary milker, each cow will strip from three-quarters to a pound of

Fig. 2.—Stripping.

milk. This milk averages 7.5 per cent of fat, so that on a string of thirty cows, there is 15 to 30 pounds of 7.5 per cent milk; this equals a daily loss of 2 to 2¼ pounds of butter-fat, worth say twenty cents a pound, or 40 to 45 cents.

The Hegelund method of increasing the milk flow has been tried by the Cornell and Wisconsin Stations, and bulletins issued telling the results and making comparisons with the ordinary forms of strippings. The Hegelund method is a series of manipulations, or a massage of the udder that can best be studied from the illustrations. These manipulations follow the regular milking. They are described as follows:

Fig. 3.—First Manipulation, Right Quarters.

First Manipulation.—The right quarters of the udder are pressed against

Fig. 4.—First Manipulation, Left Quarters.

each other (if the udder is very large, only one quarter at a time is taken) with the left hand on the hind quarter and the right hand in front on the fore quarter, the thumbs being placed on the outside of the udder and the four fingers in the division between the two halves of the udder. The hands are now pressed toward each other and at the same time lifted toward the body of the cow. This pressing and lifting is repeated three times, the milk collected in the milk cistern is then milked out, and the manipulation repeated until no more milk is obtained in this way, when the left quarters are treated in the same manner. (See figs. 3 and 4.)

Fig. 5.—Second Manipulation Right Fore Quarter.

Second Manipulation.—The glands are pressed together from the side. The fore quarters are milked each by itself by placing one hand, with fingers spread, on the outside of the quarter and the other hand in the division between the right and left fore quarters; the hands are pressed against each other and the teat then milked. When no more milk is obtained by this manipulation, the hind quarters are milked by placing a hand on the outside of each quarter, likewise with fingers spread and turned upward, but with the thumb just in front of the hind quarter. The hands are lifted and grasp into the gland from behind and from the side, after which they are lowered to draw the

Fig. 6.—Second Manipulation, Hind Quarter.

milk. The manipulation is repeated until no more milk is obtained. (See Figs. 5 and 6.)

Third Manipulation.—The fore teats with partly closed hands and lifted with a push toward the body of the cow, both at the same time, by which method the glands are pressed between the hands and the body; the

THIS SKIMMING MACHINE takes the cream from the milk quicker than wringers squeeze water from clothes. It gets **a quarter to a half more cream** than by setting, because it uses centrifugal force—a force thousands of times stronger, quicker, more effective than the force that makes cream rise in pans.

Sharples TUBULAR CREAM SEPARATORS

Skimming finished five minutes **after** milking, because boy of ten can run Tubular **during** milking. No skim milk to warm, because skim milk is fed still warm from cow. **Half less washing, labor and expense,** because only cream is put away. Catalog X 260 explains clearly.

THE SHARPLES SEPARATOR CO.
Toronto, Can. West Chester, Pa. Chicago, Ill.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkius.
O. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. W. C. MARBLE, Secretary.
J. E. MARBLE. J. E. FISHBURN
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE **DE LAVAL SEPARATORS**
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

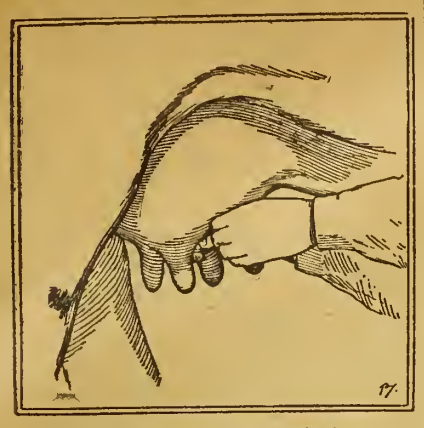


Fig. 7.—Third Manipulation.

milk is drawn after each three pushes. When the fore teats are emptied, the hind teats are milked in the same manner. (See Fig. 7.)

The average increase of milk was one pound a day per cow; the average of the fat of the entire milk was 4.29 and this last pound of milk obtained had 10.32 per cent. of butter-fat.

JERSEYS AND GUERNSEY.

The ten thousand or more farmers and dairymen in California, who come from Iowa, know personally, or by his writings, Prof. W. J. Kennedy of the Iowa Agricultural College. He has just returned from a year in the old country where he went to study animal industry and its kindred subjects. He makes the following notes of how dairy cows are cared for on the Channel Islands. One thing appeals to us of instinct, and that is, that dairying is carried on successfully on high-priced land. Prof. Kennedy says:

"That dairy farming can be conducted on very valuable land is amply illustrated on the island of Jersey. With land for agricultural purposes renting for from $40 to $80 per acre the people of this little island have been compelled to adopt a very intensified system of farming. The farms are small and the most important crop is early potatoes, which are grown for export."

Feeding Dairy Cows.

The Jersey cow in her native land is not so liberally fed as in other countries. In some instances the cows are wintered on the grass lot with some straw and few roots in addition only, but generally they receive better care. Roughage is fed in limited quantities, and a great deal of dependence is placed on the root crops to furnish the bulk of the winter rations. This is a cheap source of feed because they are grown as a second crop on the potato land. Turnips, swedes, carrots and mangels are all grown. On some farms cabbages are grown for winter feeding. They are not so likely to impart an undesirable flavor to the milk as turnips, and are growing in public favor. Grain and cake are fed in very small quantities. The majority of farmers use from 2 to 5 pounds per cow per day, and it is said that only one farmer on the island feeds as much as 10 pounds to cows in full milk. During the summer no grain is fed as a rule. Great care is given cows at calving time; warm bran mashes are usually fed at this time. Bran mashes are frequently fed throughout the entire period of lactation, and on all farms the cows are grazed from four to seven hours each day throughout the winter. The freedom of the cattle from tuberculosis is emphatic evidence of the wisdom of this method of management.

* * *

Guernsey.

Although the island of Guernsey is located quite near the island of Jersey the conditions prevailing are quite different in many respects. Land rents are not so high in Guernsey, but from the standpoint of live-stock production this has not proved to be an advantage. The live stock interests are confined almost solely to the Guernsey breed of cattle and are of secondary importance from an agricultural standpoint. The production of tomatoes, grapes, and bulbs, under glass, occupies the first attention of the people, and live stock are maintained largely because of their favorable influence on the fertility of the land. Like the farmers of Jersey, the breeders of Guernsey do not give their cattle as good care and feed as those in countries where the production of dairy and meat products is more important. However, the methods of feeding are very good on many farms. A system of feeding which has a slight tendency to produce flesh is appreciated rather than otherwise. With this exception, however, the methods of feeding are very much the same as in the island of Jersey.

Grass, soiling crops, and roots supply the succulent feed. Mangels, turnips and carrots are the common roots, but parsnips are also fed and are particularly valuable as they do not taint the milk. The amount of roughage used is larger than in Jersey.

GOAT DAIRY IN CALIFORNIA.

A correspondent writes the Cultivator of an interesting experiment in goat dairying being made near Los Gatos, by Dr. Johnson. He has about eighteen milking goats, some of which cost him over $100.

The animals produce milk on much less feed than the cow and it is of a richer quality. We understand that the experiment is proving successful and that soon the herd will be increased. The demand for goats' milk is growing, especially for children, and we expect to see the day when it will be used quite generally. In the countries of the old world, goat milking is very common. There the owners of the goats drive them to the customer's door and milk them. Until recent years, however, few goats have been milked in this country, but within the past few years their numbers have been steadily increasng.

THE URGENT DEMAND FOR BETTER MILK.

Consumers are getting more particular and there is an increasing demand for better milk. They want milk that is not only pure and unadulterated, but free from dirt, the product of healthy cows kept in hygienic stables and fed upon healthful food, and milk that is entirely free from the germs of tuberculosis or other diseases. Now the consumer can get milk that complies with all these requirements, if he is willing to pay for it. Fancy dairies in different parts of the country are already supplying just such milk and receive for it from 8 to 15 cents a quart. But the great mass of consumers are unwilling to pay fancy prices for milk. For generations they have been taught that 5 or 6 cents a quart at retail is all that milk is worth, and they feel robbed if they are obliged to pay more. They have persistently underrated the food value of milk. The housewife will pay 20 to 30 cents a pound for sirloin steak without a qualm, but "goes up in the air" if called upon to pay 7 or 8 cents a quart for milk. And yet milk will furnish more digestible nutrients in a form available and agreeable to the average individual than will the same amount of money's worth of steak.

Another mistake on the part of many consumers is the carelessness with which milk is treated after it is delivered to them. The magazine, Good Housekeeping, cites instances where milk, bottled and sterilized, has been spoiled in the houses of wealthy and intelligent people, by having the cover removed and the open bottle of milk stored in the refrigerator with onions and other ill smelling substances. Of course it was the careless cook's fault, but the producer got the blame. The great trouble with the country end of the business for years has been that the farmer is obliged to keep down the expense of production to the very lowest notch or go out of business. We are not apologizing for unsanitary stables and improper handling of milk, conditions that should be reformed wherever they exist, but consumers must not expect a 10-cent article for a nickel.—Orange Judd Farmer.

* * *

No, consumers should not expect "a 10-cent article for a nickel," but they have a right to expect that the nickel's worth shall be pure and wholesome. We realize, of course, that there are too many housewives who neglect the care of the milk after it is delivered. They let it stand in a warm place or in the sun, until all the germs in Christendom have generated, provided the milk is in an open vessel. But this will not excuse the dairyman in neglecting the rules of cleanliness in his stable, or his cows, nor excuse him if he overlooks proper feeding. It is this neglect which is telling on the health of our children today, a fatal mistake of the common dairyman.

ANGORA GOATS.

Editor Cultivator: Where can I get Angora goats, and price usually asked for the male and female? W. H. S., Santa Barbara.

C. B. Bailey & Son, San Jose, do not know what price is asked. You can write referring to The Cultivator as your source of information.

The W. C. T. U. has presented the town of Oxnard with a new drinking fountain.

GEO. O. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Thoroughbred Poland China Swine and **Black Minorca and Barred Rock Poultry**
High grade stock of best strains. Young stock for sale. M. BASSETT, HANFORD, CAL.

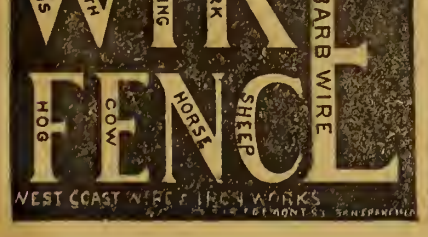
BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd. Also Black Minorca chicken eggs in season. Stock for sale, also bred sows. W. R. McCASLIN & SON, Walsh Station, Sacramento County, Cal.

Registered Shorthorns
—MILK STRAIN—

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal



Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

6 Thoroughbred Jersey Calves
FOR SALE
High-grade stock. Pick of the herd. $50 each. Write or call on
E. E. MOORE - COMPTON, CAL.

Must be Sold by January 1st, 1906
Having sold my ranch, I am forced to sell 40 head of Registered and Grade Jerseys. Ten registered cows, milking now; 4 young heifers, eligible; 8 bulls, registered or eligible; 18 cows and heifers, pure bred and grade, not eligible. This herd represents some of the best blood on this coast. Parties wishing to see the stock can take Santa Ana electric car and get off at Hansen. Station is right at the ranch.
W. J. Cole, R. F. D. 1, Anaheim, Cal.

BULL FOR SALE
Having sold my ranch I am forced to sell Golden of Biltmore 60082, a grandson of Golden Lad'e. Golden of Biltmore is one of the best, *if not the best* sire on the coast, several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the *bull free of charge. I sell on merit.*
C. B. Burgess, Riverside, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.
Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.
Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams. for sale.
L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.

La Palma Stock Farm
We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.
Also a fine Registered Jersey Bull and Six Registered Cows for sale.
Write for what you want.
J. A. CAMPBELL, Buena Park, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

WHICH IS THE BEST MOTHER?

"I have just bought an incubator," said a friend last week. "I want to make some money out of chickens. I wish you could give me some hints on how to succeed."

It would take very broad hints or more than hints to help some good folks to success in the poultry business, but a few hints on how to care for young chicks, either motherless little ones brought up in a brooder or those being cared for (?) by their own mother.

With well hatched chickens there should be but little trouble in raising 90 per cent. or more to marketable age, yet there are many who are satisfied if they raise 50 per cent. of those that hatch. I have seen it stated that out of one hundred fertile eggs in the incubator, not forty chickens reach the market, 60 per cent. of the embryo deaths being due to the ignorant application of hygienic laws.

It is humiliating that with all our boasted science and our world-renowned ingenuity, the Egyptian fellah and the heathen Chinese should excel us in both hatching and rearing chicks but such is the fact. In view of these facts let us consider a little why there is any mortality among brooder chicks and which is the best mother, an old hen or a modern brooder.

* * *

As I have said before, the last week of the chick's life in the egg has much to do with the chicken's vigor, the eggs must be kept at the proper temperature and moisture, and be properly aired, otherwise the yolk will not be assimilated and when drawn up into the bowel cavity during the last day it will remain there undigested if the bowels are weakened by overheating.

As an illustration of this, I had a friend with a little boy visiting me one spring. One of my incubators had 241 fertile eggs due to hatch in four days. The little boy closed the damper when I was absent for two hours, and the quicksilver ran up to the top of the thermometer, about 120 degrees. I quickly cooled the eggs off and sorrowfully returned them to the incubator. When hatching time came I found a number of chicks were cooked in the shell, but a hundred and seventeen hatched out and my hopes were raised. I tended them carefully (they were such beauties!) I put them into three brooders warmed just right, but every day there were deaths to chronicle, till every one was dead. I doctored them, fed everything I could think of, but the yolk, like a tough bit of rubber in some, or like a hard-boiled egg in others, remained inside them. I supose it was either cooked or the bowels were so weakened by the over-heating that they could not digest it. In any case the chicks died of blood poisoning.

The same may result from feeding chicks too soon. The chicks should be left in the incubator twenty-four hours after hatching, and when moved into the brooder should not be fed for still another twenty-four hours,. In this we are copying nature and following the example of the old hen. This was explained to me years ago by a very clever surgeon who had successfully operated on chicks by cutting them open and removing the yolk. If the chick eats before the yolk is assimilated or digested, whichever you like to call it, the gastric juice or the nervous energy which ought to be working on the yolk, is drawn away from it, and is taken into the crop and the proventriculus and gizzard to digest the new food which has been administered. Sometimes there is enough of this fluid to go around and do all the work if the chick is very vigorous, but it more frequently happens that there is not enough, in which case the digestion of the yolk (which is a perfect nourishment if only digested), turns putrid and kills the chick. Or should the digestion slowly progress (taking ten days instead of three days), it may bring on bowel trouble which at so early an age, will stunt the growth if it does not kill the chick. I am particular in explaining this because sad disappointments and post mortem examinations have given me experience in this matter and I want our readers to benefit by it.

To raise chicks successfully, three things are essential; first comfort, second proper food and water, and third, exercise. Of these comfort is chief.

* * *

Under the head of comfort comes the proper kind of brooder and plenty of room. The veteran poultry breeder, A. F. Hunter, says: "With incubator chicks raised in brooders, elbow room seems to be a most important factor, and want of elbow room is one cause of the great mortality in brooder chicks." It is quite natural to suppose that a brooder which is three feet square is plenty large enough for seventy-five or a hundred chicks, and so it is for chicks as they come out of an incubator, and if we do not want our chicks to grow it might be all right to crowd them, but chicks well hatched will grow quickly and in a very short time will be twice the size they were when hatched and will require twice as much room or suffer for it.

(To be Continued.)

* * *

EDITOR'S QUESTION BOX.

What to Feed an Old Rooster.—Some time ago I read in some paper what to feed old roosters for a week and it would make him tender and juicy. I thought nothing of it then, but now I have the rooster and want to try it. Will you kindly publish that or some other recipe for that purpose in the columns of the Cultivator?—Mrs. W. L. B., Campbell, Cal.

Answer.—Does this conundrum come lawfully into the poultry editor's question box?

As it is Christmas time she will be good- natured and attempt it. When the rooster is well plucked, singe him. Then cut off his neck (save it) close to the body, but slip the skin back so as to have a large piece left on the body to keep the dressing in. Cut a straight slit at the vent, remove all

The "Old Trusty" Incubator

The Incubator that sells for less than any other of equal construction, material and size, Sold on free trial. Agents wanted everywhere.

Send today for big free 120-page catalogue containing 250 illustrations and valuable poultry advice.

Free Trial
We Pay
the Freight

REMEMBER our guarantee is not a lot of "ifs" and "ands," but says our Incubator must do the work.

DO IT NOW—SEND FOR FREE CATALOG

The McClanahan Incubator Co.

819 South Main Street, Los Angeles, Cal.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

the entrails, fill the cavity and the breast with the following dressing: One-fourth of a loaf of bread, if stale soak five minutes in cold water (not hot water), squeeze dry and crumble; add half a cup of beef suet chopped fine, a small onion chopped, a little celery and parsley, half a teaspoon of salt, pepper and sage. Stuff this into the rooster, sew up the holes in the skin, tie the legs firmly and pass the string, crossing it on the back, round the pinions and tie; then either steam him for two hours or stew him very slowly for that time in water in which is dissolved half a teaspoon of bicarbonate of soda. Then put him into the oven, sprinkling with pepper and salt, and bake for an hour. He will be almost as good as turkey. Save the liquor in which he was stewed; thicken with flour for good gravy.

WHAT TO FEED THE HENS AND CHICKS.

The question of the best food for laying hens and growing chicks is always an open one. I have given the matter careful attention, and have at last devised a menu for biddy and her offspring which I do not believe can be improved upon as a regulation diet. I may say at the beginning that in my opinion the secret of raising chickens lies in dry feed. Anything else is pretty sure to cause more or less bowel trouble and consequent loss.

My first feed for newly-hatched chicks is oatmeal—not the prepared foods, but the plain meal. I keep on with this for a week, supplying sand for grit, and keeping plenty of fresh water or skim milk before the chicks. I then feed cornmeal and bran, made into a cake with soda in the usual way. The cake is crumbled into bits, and is eaten greedily. For the second week I feed this a part of the time, and a part of the time oatmeal. I leave mashes severely alone. They ought to have no place on a chick's diet list. The old practice of bringing up chickens on cornmeal mash is out of date. Not only is the mash in itself a bad thing, but cornmeal is not a growth making food. It produces fat rather than bone and muscle. Bran is the better by far; wheat bran affords quick, steady growth, and buckwheat bran is also good. The third week one may begin feeding wheat. Stick to wheat if raising laying stock; if raising broilers, alternate with cracked corn until old enough to fatten. Until a month old, give one feed a day of the corn and bran cake. After that, occasionally vary the wheat diet with cracked corn, buckwheat, etc.

Skim milk is of great value in making growth. If skim milk cannot be had, and the chickens are confined, meat scraps or meat meal ought to be be fed. The meat meal may be baked with the corn cake.

My hens lay winter and summer. My summer menu is as follows: Morning, cracked corn (I would feed wheat, but cannot get it at present). Noon, dry bran in a trough. Night, table scraps, mixed with bran so as not to be wet.

The table scraps include bits of meat, vegetables, bread, pastry, banana peelings, etc. The tops of the vegetables, potato parings, apple peelings, etc., go into the hen's dish. These are chopped fine and thoroughly mixed with the bran. Lawn clippings are occasionally thrown into the pens, and skim milk given to drink. Skim milk is excellent for laying hens, and with me takes the place of meat. It is of fully as much value in egg-making as whole milk, for cream is practically nothing but fat. In winter I recommend these rations: Morning, whole corn, warmed or parched and thrown in the litter; noon, dry bran; evening, mash, composed of meat scraps, vegetables, bran and a little corn meal. If skim milk is given the meat may be omitted, although best results come from using it.

The mash should be mixed very dry. Many of the ailments of laying hens are caused by bowel trouble, of which soft feed is a prolific source. Vegetables chopped fine or, even better, mashed into a pulp, are of much value, and constitute a chief ration. A cabbage hung in the hen house just high enough to make the hens jump for it, furnished fresh green food in a very satisfactory manner. The dry bran at noon will not be eaten greedily, but the hens will eat on it a little at a time during the afternoon. They cannot stuff themselves with it. No more should be given than will be cleaned up in three or four hours. Of course plenty of grit and oyster shells should be provided, and good results will come from furnishing warm water.

The system I have outlined may not force the hens heavily, but I believe it to be one of the most practicable for obtaining the maximum number of eggs and raising the maximum number of chickens at the minimum of expense.—E. I. Farrington, in Country Gentleman.

SHOW YOUR BIRDS.

The season of poultry exhibitions is now on. It will run for several weeks, and be productive of much pleasure to those who own fine birds. The Cultivator desires to urge upon owners of fine birds to exhibit them at their poultry shows. We believe with Henry Wyatte, writing in the Inland Poultry Journal, that the annual poultry shows are the life of the poultry business in America.

Those who have, in by-gone days, taken their birds to the shows have been benefitted according to the purpose they had in mind in going. Some persons go for the prizes and money they get out of it; they find out how strong the class will be in which they intend to show, and, if there be little or no competition they show birds that are, in their minds, on the safe side of winning; take the honor and money as well. Then they advertise—a good thing to do, if they are thoroughly honest about it—give the impression that they have done great things in winning at said shows; perhaps adding, "in strong competition," when they left their own "weak" birds at home, and brought "stronger" ones to show, so as to sell their own raising—weak ones—on the strength of such prizes won. Some one buys this man's stock, or eggs, at a fancy price, thinking he is either getting birds that are prize winners, or some of the same stock, or eggs from such. Thus, in cases of this kind, and I am sorry to say there are far too many of them, the buyer is defrauded. He buys and pays for what he does not get. A worse "take in" than even this, is that his hopes will be dashed to the ground and he will meet with a whole year's disappointment as well. To publish the winnings of such breeders in our show records is not only morally wrong in itself, but a menace to the poultry fraternity as well. May the number of such exhibitors never increase.

Others go to some exhibitions in order to put their stocks in competition with those of other breeders; have some reputable and reliable judge pronounce upon them, and after the prizes have been awarded compare their birds with the others; if scored see where their birds have been cut and why; study how they can improve their stock in that particular, and, if possible, buy the bird or birds that will accomplish the results. If necessary, such a breeder is willing to pay big prices for them, too. These breeders will be benefitted in one point at least. Another good point of attending the shows is that of meeting with and conversing with breeders of great reputation; breeders who have been known to them in name only before, if they take the poultry journals. There are men who may be able, in a few minutes talk, to help you more, without giving away any secrets in poultryism—than reading articles in our best poultry journals. Such fanciers are generally satisfied if they come out on the whole, generally speaking, with making expenses in attending the show. If they have won good honors, they of course, advertise, and do so, as strong as their stock warrants it and no further.

No amateur can get along and breed good birds without taking them to the shows, at least those that are nearest and "dearest" to him. He

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.50 and $3.00. per 14 Exhibition and utility stock for sale. 132 Ave 32, Los Angeles, Cal.

BARRED ROCKS, WHITE MINORCAS, INDIAN RUNNER DUCKS AND WHITE HOLLAND TURKEYS
Prize winning birds at Central California Fair, where 7 firsts were won in '05.
JOE McDONALD, R. F. D. 2, HANFORD, CAL.

Choice Alfalfa or Chicken Ranch
Twenty acres good sandy loam soil, no alkali, abundance of water, 5-room house, large barn and incubator cellar. Near Anaheim.
WM. A. GREEN, BOX 401, ANAHEIM, CAL.

Dustin Strain White Wyandottes and Indian Runner Ducks Pure Bred and Fine large stock. Eggs for setting only.
C. A. McDONALD, BEAUMONT, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

BUFF LEGHORNS
A few cockerels for sale. After Jan. 1 eggs from choice mated pens, $1.25 per 15
Chas. G. Miller, 40 Elm St., Watsonville, Cal.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

LINDGREN BROS. KINGSBURG, CAL. McPHERSON, KANSAS
BUFF LEGHORNS BARRED ROCKS
Prize-winners at Chicago, St. Louis, San Francisco and majority of prizes at Portland on Buffs. Choice Cockerels and Pullets for sale.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the last Los Angeles Show our birds won twelve prizes. At the California State Show, Nov. 27th, 1905, on I. R. Ducks, three prizes on four entries. White Minorca and White Wyandotte eggs, $1.50 per 15, $8.00 per 100. Indian Runner Duck eggs, $1.00 per 13, $5.00 per 100.

Single Comb White Leghorns
Thoroughbred Stock. Eggs, $1.50 per 15. Send for illustrated catalogue.
John P. Boden, 138 Second Street, Watsonville, Cal.

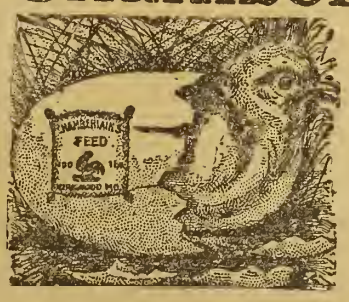
SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

Walnut Grove Poultry Ranch
Standard Bred White Wyandottes, (Hay's strain). Eggs for hatching from carefully mated stock, $2 per 13; $12 per 100.
F. L. Hogue - Carpinteria, Cal.

Wm. B. Dean
Is the inventor and manufacturer of the
Pacific Incubator
also the founder of the Reliable Incubator Co. Get his catalogue before buying elsewhere. Address 2509 Central Avenue, Los Angeles.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

Chamberlain's Perfect Chick Feed



World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

Sending a Train Load of Coulson's Poultry Foods Down in Central California, San Joaquin Valley

Scene at Petaluma Freight Depot—Sending a train load of 12 full cars loaded with Coulson's Egg Food and Coulson's Special Chick Feed down into Central California.

A. R. Coulson, president and manager of the Coulson Poultry & Stock Food Co., has this year traveled all over the state of California in the company's automobile. The following is a clipping from the Petaluma Argus:

"MADE AN AUTOMOBILE TRIP TO MEXICO.

"A. R. Coulson returned Sunday afternoon from San Francisco. He arrived in the metropolis from Mexico, after an absence of ten weeks. He reports a fine trip. During his long trip he did not have an accident with the automobile. Mr. Coulson is the first person who has driven from San Francisco to Mexico in an auto, the distance being about 2000 miles. The auto will arrive tonight from San Francisco."

About April 10th, Mr. Coulson accompanied by one of the salesmen, started on their long automobile trip. On their trip down along the coast, from San Francisco to San Diego, they took orders for over 500 tons of Coulson's Egg and Chick Feeds, about 35 carloads. Afterward, in the month of July, another 100 tons was sold in Humboldt County, and on their trip through Napa and Solano counties, another 100 tons was sold. In September, on their trip from Sacramento to Redding, up the Northern Sacramento valley, seven more carloads, and on the last trip in October, Mr. Coulson, accompanied by Mr. J. M. Bull, sold twelve carloads more in the San Joaquin Valley, as follows:

Simon Newman Co., at Newman, 1 car; Dos Palos Colony, Rochdale, Assn., 1 car; Moore Plate Co., Madera, 1 car; Fresno Rochdale Co., 2 cars; Kutner, Goldstein Co., Selma, 1 car; Kutner, Goldstein Co., Hanford, 1 car; Linder Hardware Co., Tulare, 1 car; H. Frame and the Rochdale Co., at Porterville, 1 carload; Goldstein & Iseman, Visalia, 1 car; Burum & Burum, Dinuba, 1 car, not less than 15 tons in a car.

Each of the 70 firms that handle Coulson's Foods in carload lots, wholesale it to a number of other stores, so that there are probably 600 or 700 stores on the coast that sell Coulson's Egg Food and Coulson's Chick Feed, so that you should be able to get Coulson's poultry foods at some store in every town.

Mr. Coulson visited nearly every poultry raiser or farmer that raises poultry, having talked with over 5000 of them this summer, and it was always noticeable, that where the poultry was fed on Coulson's Foods, the fowls had such bright red combs (showing healthy liver). Their plumage was even and glossy, they were spry, active and healthy, and the owners were satisfied that feeding Coulson's Balanced Rations was far better than ordinary grain feeds.

Mr. Coulson believes in small profits and large sales. He also believes that the best of everything is the cheapest in the end. Consequently, only the best grade of feed and ingredients is used in preparing Coulson's Feeds.

There are many firms that imitate Coulson's Poultry Foods, and which they offer at a cheaper price, but they do not contain as many of the expensive and result-getting articles. In spite of all the cheaper imitation foods offered, there is undoubtedly more of the Coulson's Food sold, than all others combined.

You will never know how good COULSON'S POULTRY FOODS are until you see some of the imitations.

A. R. COULSON,

President and General Manager of Coulson Poultry & Stock Food Co., now incorporated at $100,000, and soon to be increased to $150,000.

So when you buy a chicken ranch, the first thing you want to do, is to find out where you can buy COULSON'S FOODS, for chickens are like machines, and if you treat them right, and feed them on COULSON'S FOODS, they will make money for you.

THE COULSON COMPANY'S AUTOMOBILE.

With which Mr. Coulson this year traveled all over the state of California on business.

One poultryman at Hanford has a flock of 350 hens, and for over a year they have been fed on COULSON'S EGG FOOD. At present, these hens are laying two cases of eggs per week, which are sold at Berkeley for 50c per dozen. The cost of feeding these hens Coulson's Egg Food is less than $4.00 per week. Amount received for eggs, $30.00 per week.

Another large poultryman near Petaluma has 3200 laying hens, which have been fed on COULSON'S EGG FOOD for the past three years. They are fed two sacks of Coulson's feed a day, and they are laying now 1200 eggs a day, which means 600 eggs from one sack of Coulson's Egg Food, or $20.00 worth of eggs from less than $2.00 worth of feed. You could afford to feed your hens Coulson's Egg Food and make a profit even if it cost twice as much as it does.

READER, YOU SHOULD FEED YOUR HENS COULSON'S EGG FOOD EVERY DAY.

They need it in their business.

Coulson's Egg Food is a rich feed, composed of about three-fourths ground grains or mill feeds, and one-fourth of extras, like Dried Blood, Cooked Meat, Fresh Ground Bone Meal, and other things, all thoroughly mixed, ready to feed the chickens and make them lay.

Ask your dealer about it.

COULSON'S EGG FOOD For Hen.

COULSON'S SPECIAL DRY CHICK FEED for little chicks.

Manufactured by

Coulson Poultry & Stock Food Co.

Petaluma, California

Nothing Succeeds Like Success

325 carloads of Coulson's Poultry Foods (Coulson's Egg Food and Chick Feeds) sold in California during the year 1905. Enough to make a solid train load two and one-half miles long requiring 20 engines to pull it. Over 125 carloads shipped by steamer.

BALANCED FEED RATIONS

Intelligent feeding of Poultry and Stock is the one way to make it pay. You have heard that some foods furnish fats, other foods make muscle and tissue, and others make bone, shell, etc. You know that most foods contain one or more of these elements, but no feed would contain them all in the proper proportions.

Now, by understanding the different values of different feeds, is where the secret of success comes in. The Coulson Poultry & Stock Food Co. makes a specialty of the feeding problem. Under the care and instructions of A. R. COULSON, the Chicken Doctor, they prepare special mixed feeds, or properly "balanced" rations for poultry, which are mixed with the right ingredients, in the right proportions to make poultry pay.

First, they make a Special Chick Feed for feeding baby chicks. It is composed of tiny pieces of cracked grains, specially selected small seeds, baked hearts in meal, pin-head size, Steel Cut Oat Meal, Millet Seed, and other things, each in the right proportion to keep the little chicks healthy and make them grow.

The COULSON POULTRY & STOCK FOOD CO., occupying a building 70 by 120 feet, and also several smaller buildings on the property at 730-736 Main street, Petaluma, employing about thirty hands, are engaged in the mixing of the various feed stuffs, animal meals, beef scraps, dried blood, ground bone, seeds, etc., into the best properly balanced mixed feeds, especially adapted for certain results.

The materials are brought in large quantities from all parts of the world. Mill Feeds from Washington and Oregon and various parts of California, Oat Meal in carload lots from Illinois and Kansas, Millet Seed in carload lots from Minnesota, some from Germany, Hemp from Germany, Canary Bird Seed, some imported, Peppers from Japan, Rice from China and Japan, Flaxseed from Oregon, Ginger from Africa and Japan, Corn from Nebraska, etc.

$100,000

PAID TO THE ARMOUR PACKING CO.

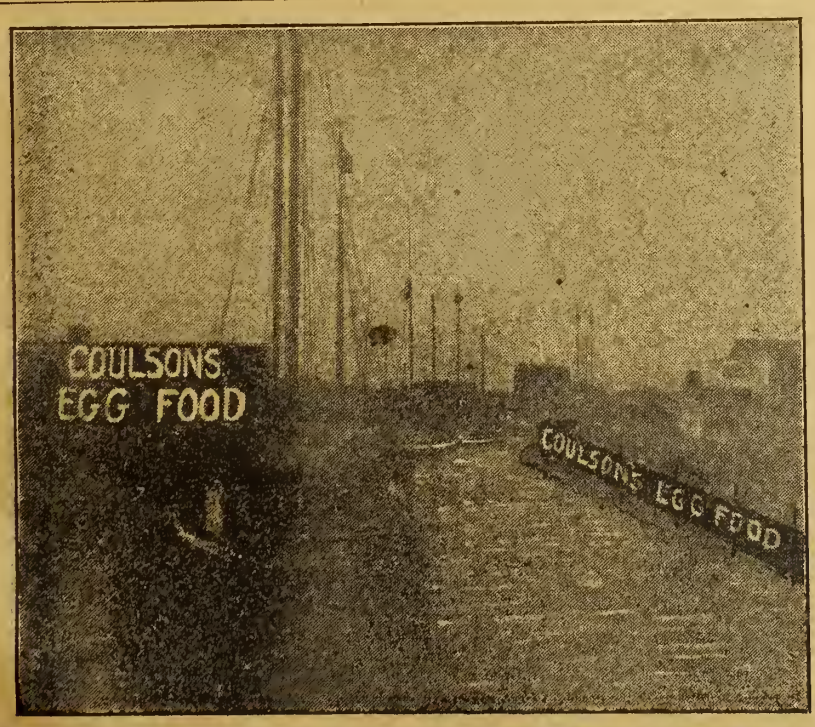
For our Animal Meals, which includes Dried Blood Meal, Meat Meals, Beef Scraps, etc., which enter into our Poultry Foods and other balanced rations, we have an annual contract with the Armour Co., with their vast works at Chicago, Kansas City, and South Omaha, employing in all, an army of 25,000 people. By this contract we have the exclusive sale for the Pacific Coast of their goods in our line.

This Meat Meal is made from **Hearts** and **Livers**, which are kept separate from all the rest, for our own trade. After being thoroughly cooked, they are dried, then ground and screened into different sizes and sacked, and shipped to us in carloads of 20 to 50 tons.

The Bone Meal, Animal Charcoal, etc., (made from fresh ground bones only), are prepared for us at San Francisco, by the largest concern of the kind on the coast, giving us the benefit of the latest improvements in machinery and methods of preparations. In the process of manufacture of Bone Charcoal Bone Meal, etc, great care is exercised that none are lost.

All these ingredients are mixed together in proper proportions, all ready to feed to the chickens.

If you are interested in poultry, send us 4 cents to pay postage on our 80-page Catalogue and Poultry Account Book free.



Schooners Bringing Food to and From Petaluma Where Coulson's Egg Food is Made.

SEVENTY DIFFERENT FIRMS IN CALIFORNIA BUY COULSON'S POULTRY FOODS IN FULL CARLOAD LOTS.

The following dealers purchase COULSON'S FOODS in full carloads lots, thus getting the benefit of special car freight rates; therefore they are able to sell COULSON'S POULTRY FOODS at lowest prices:

GERMAIN SEED CO	Los Angeles, (this year)	24 cars
Sperry Flour Company, 3 places	Sacramento, Santa Cruz, San Luis Obispo	20 Cars
Channel Commercial Co	Ventura, Santa Barbara	10 cars
San Diego Feed Mills	San Diego	10 cars
J. D. Hennessy & Co	Portland, Oregon	4 cars
Tillson & Co	Salem, Oregon	
G. M. Connick & Co	Eureka, Cal.	
Donaiti & Petar	Bolinas, Cal.	
Hammond & Yardley	Stockton, Cal.	
F. F. Smith & Co.	Sacramento, Cal.	12 cars
Roderick McRae	Pleasant Grove, Cal.	
White, Cooley & Cutts	Marysville, Cal.	
Jas. H. Jones & Co.	Chico, Cal.	
Cone & Kimball	Red Bluff, Cal.	
Markofer & Latta	Elk Grove, Cal.	
Fresno Rochdale Co.	Fresno, Cal.	5 cars
Kutner, Goldstein Co.	Selma, Cal.	4 cars
V. E. Hill	Hanford, Cal.	3 cars
O. H. Allison	Elmira, Cal.	3 cars
Hilborn Bros.	Suisun, Cal.	3 cars
Stoddard Milling Co.	Napa, Cal.	5 cars
Rossi & Anderson Co.	St. Helena, Cal.	
C. A. Stevens Co.	Calistoga, Cal.	
J. S. Bolchor & Sons	San Mateo, Cal	
Horace Nelson	Half Moon Bay, Cal.	
Fatjo Bros.	Santa Clara, Cal.	
The City Store	San Jose, Cal.	9 cars
Mason & Triggs	Morgan Hill, Cal.	
San Martin Union	San Martin, Cal.	
Geo. P. McNear	Petaluma, Cal.	8 cars
Golden Eagle Milling Co.	Petaluma, Cal	5 cars
Scott Grocery Co.	Santa Rosa, Cal.	5 cars
K. M. Thomas	Gilroy. Cal.	3 cars
Stevens & Harrison	Hollister, Cal.	6 cars
The Abbe Co..	San Juan, Cal.	
Milks, Adamson Co.	Watsonville, Cal.	6 cars
F. Blackie, Jr.	Salinas, Cal.	8 cars
Preble Grocery Co.	Monterev. Cal..	
Geo. F. Bell	Paso Robles, Cal.	3 cars
Wahrlich, Cornett Co	Soledad, Cal.	
Russell Robinson	Arroyo Grande, Cal.	5 cars
D. D. Mead..	Nipomo, Cal.	
A. McNeil	Santa Maria, Cal.	4 cars
Freeman Bros.	Santa Maria, Cal.	
Santa Paula Co-Operative Assn	Santa Paula, Cal.	
Prince Feed and Fuel Co	Santa Ana, Cal.	6 cars
Griffiths Bros. Milling Co	Covina, Cal.	
F. H. Paine Feed and Fuel Co	Pomona, Cal.	5 cars
Upland Feed and Fuel Co	Upland, Cal.	3 cars
Globe Mills	Colton, Cal.	4 cars
Woodward & Co.	Downey, Cal.	
Slocum & Core	Fair Oaks, Cal.	
Stevenson Bros. Co.	Escondido, Cal.	4 cars
L. M. Lasell Co.	Martinez, Cal.	4 cars
John Pierson	Walnut Creek, Cal.	
Seeley & Titlow Co.	Arcata, Cal.	
L. B. Compton...	Eureka, Cal.	4 cars
Aggeler, Morrison, Hansen Co.	Ferndale, Cal.	
H. G. Williams	Oakland, Cal.	6 cars
A. J. Hankins	Colusa, Cal.	
Woodland Rochdale Co.	Woodland, Cal.	
Moore Plate Co.	Madera, Cal.	
Riverside Milling & Fuel Co	Riverside, Cal..	
Goldstein & Iseman	Visalia, Cal.	
Kutner, Goldstein Co.	Hanford, Cal.	
Linder Hardware Co	Tulare, Cal.	
Burum & Burum	Dinuba, Cal.	
Dos Palos Rochdale Co	Colony Center, Cal.	
Simon Newman Co.	Newman, Cal.	
Bailey & Sons	Salt Lake City, Utah	

There are about 70 distributing agencies where Coulson's Egg Food and Coulson's Chick Feed are handed in carload lots. There are more of COULSON'S Poultry Feeds sold in this state than of all other kinds combined.

Coulson Poultry & Stock Food Company

730-732-734-736 Main St.
Petaluma, California

Toulouse Geese

75 head of Fine Stock to select from. Write
H. O. Higgins, Box 741, Riverside, Cal.

WHITE LEGHORN COCKERELS

A few pure bred cockerels from heavy laying strains, $2.50, $3.50 and $5.00 each.
L. W. Clark, R. F. D. 4, Petaluma, Cal.

RHODE ISLAND REDS

Fine large stock, heavy layers, best of broilers. Eggs, $1.50 per setting.
J. D. Setzer, Northrup and Pedro Sts., San Jose, Cal.

WHITE AND BUFF **Leghorns**

Old and young stock for sale. Eggs after January 1. Write for prices.
J. F. Sarmento, R.F D. Box 4, San Leandro, Cal.

1 Cyphers Incubator For Sale Cheap

Takes 400 eggs, good as new, only $30.00. 20 rods of heavy chicken wire, 6 ft. wide, $10 00
J. F. Brown, Compton, Cal.

CHOICE POULTRY RANCH FOR SALE

Outskirts thriving town Corning, Sacramento Valley. Ten acres, nice creek, fine shade, best water, new dwelling, barn, chicken houses, excellent well, windmill, large iron tank. Four acres alfalfa. Hog pastures fenced. Plenty good garden and orchard land. Ideal for poultry and stock. $1000 down, price $1650.
OWNER, P. O. Box 174, Corning, Cal.

SQUAB BREEDING

and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS

EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

Eggs For Sale

Imported direct Indian Runner Ducks, prize winners in England. First prize winners at Haywards, Sacramento and Portland Lewis & Clark Exposition. Eggs, $3 for eleven.
Buff Orpington Ducks, prize winners.
Mrs. M. E. Plaw - Fruitvale, Cal.

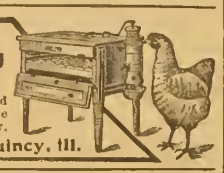
BUFF ORPINGTONS and BARRED PLY. ROCKS

Pure Bred and High Types. Eggs, $2.00 per 14; 3 settings, $5; $7.00 per 100. Males, $3.50 to $5.00. Trios, $7.50. Pens, $11.00.
B. M Stone, - R. F. D. 6, Fresno, Cal.

Breeding Cockerels

WHITE LEGHORN BLACK MINORCA
One hundred. Good Stock. A few pens of choice stock for sale. Write for prices
Avenue Poultry Yards Ventura, Cal.

$12.80 For 200 Egg INCUBATOR



Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
GEO. H. STAHL, Quincy, Ill.

WHITE LEGHORN CHICKS, 10 Cts.
WHITE PLY. ROCK CHICKS, 12½c.

Both from good stock and in good healthy condition. The W. P. Rock males where I got my eggs are from prize winning stock. Leghorns are selected and have good markings. This is a fine time to start young chicks, after the rain; yards purified, green growth coming and mites and lice at a disadvantage.
Wm. A. Green, Box 401, Anaheim, Cal.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL

Mountain View Poultry Ranch

S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger

30 DAYS TRIAL
Buy From Our Factory—Save One-Third.
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cal. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

will learn more in this way than he possibly could by a considerable amount of study at home. Some things can be learned in no other way. It all takes time, patience and careful attention to small details in order to be successful, and a little money may help, too, some. Still the saying, "finis coronat opus" (the end crowns the work) is an encouragement to many a one when difficulties meet them.

Another reason for showing stock honestly might be mentioned; unless a man is willing that his birds should come into competition with others, he has no right to charge a fancy price for his stock and eggs. But of course some claim there is a single exception to this, where a fancier has his record and name established and wishes to keep out of the show business for the sake of his customers, who buy his stock and eggs; but I doubt it. Some fanciers may think they are giving their customers their money's worth, and still at the same time be defrauding them, simply because they overlooked some little point. By all means show your birds, show them honestly, and then advertise them in The Cultivator that others may know where to buy what they want.

ALAMEDA COUNTY POULTRY SHOW.

The Alameda boys are proud of their show this year. It came off on the date set a year before, a larger number of birds than the year before, and it was a complete success. All awards were made and ribbons up before the show opened. About 700 or 800 fowls were exhibited—no pigeons—and all joined in the claim that the quality of exhibits was above the average.

The new coops and the vigilance of Superintendent Healey in keeping the litter out of sight gave an added pleasure to that of looking at fine birds. Secretary Tracy informed us that the financial returns were ample to cover all expense and that the association is in flourishing condition. Probably the happiest exhibitor was Mrs. L. B. Rhodes of Milton, who won for the second time, the cup for the ten highest scoring birds. Another winning and the cup is hers.

President Gregory told me that the date for next year's show is practically set and plans for a "better than ever" will soon be put agoing.

The regular breeds all made a good showing, but a most prominent feature was the large exhibit of bantams and fancy fowls.

The ribbons for premium awards were exceptional in that there was not only the ribbon as usual, but in addition, a metal bar across the top with an opening for a slip showing what the premium is for.

LICE ON CHICKENS.

A small pinch of lard placed on the heads of chickens will knock lice stiff and it will not hurt the chicks. Lice are the bane of fanciers who raise pure-bred fowls and a great many ills can be traced to them. Bowel trouble, weaknesses of all kinds, going light, cholera, leg weakness in young cockerels, general debility and numerous others can all be traced to them. Lice revel in filth, and there multiply and take the flock down in a hurry. The combs turn black, and their bodies get so light in weight that the owners think they are really "going light," which is but another name for consumption. The only way to successfully combat lice is to fight them all the time.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.
CAPTAIN MITCHELL SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

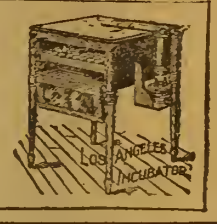
S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS
No more stock for sale. Eggs are running 80% fertile. I am booking orders for future delivery, also supplying small orders on short notice. Get your orders in early, as there is going to be a big demand this season.
WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100
My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.
W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

Mission View Poultry Ranch

MY SPECIALTIES:
WHITE WYANDOTTES
¼ WILD MAM. BRONZE TURKEYS
BUFF COCHIN BANTAMS
The original Adobe Incubator, capacity 3000 eggs. Adobe hut and cold brooder 360 feet long.
Mrs G. D. Hubbard, Box 422, San Fernando, Cal.

SUCCESS IS ATTAINED WITH
LOS ANGELES INCUBATORS

☞ SEND FOR CATALOGUE



LEE'S LICE KILLER EGG MAKER | LARGEST POULTRY SUPPLY HOUSE IN THE U. S.
HENRY ALBERS 315 S. MAIN ST. LOS AGNELES

EGGS WANTED FOR HATCHING

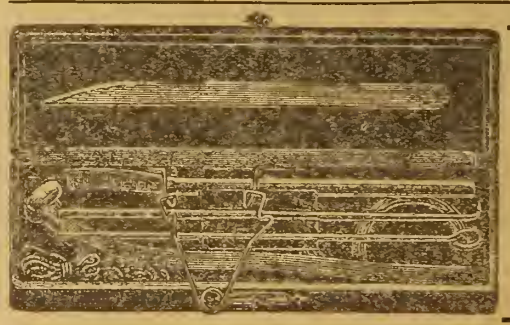
Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.
BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods
Ask your nearest dealer for them and take no imitations
Emery's "B. B. & B."
THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co San Francisco, Cal.



Caponizing Set

Double Your Profits by Caponizing.
Complete with Instructions, $2.50, Postpaid
STOCKMEN'S SUPPLY CO.
FRESNO, CALIFORNIA

EGG FOOD A·C·W IT FILLS THE BILL
Trade Mark

Eggs, 50c per Dozen

The users of A. C. W. Egg Food are happy, THEY have eggs to sell.

If you do not use A. C. W. Poultry Foods, Blood, Bone, Beef Scraps, Etc.; you are not getting the goods that give results.

A. C. W.

Stands for Agricultural Chemical Works, the largest **manufacturers** of Poultry Foods. We are not jobbers or dealers but make our own goods and have for twelve years and ship in carload lots all over the State. Our goods are guaranteed free from preservatives, chemicals or **diseased meats**. Many of the diseases in Poultry Flocks are caused by feeding infected food.

A. C. W. FOODS ARE PURE, ARE GUARANTEED. ARE SEALED.

The Agricultural Chemical Works stands behind the **guarantee.** We manufacture **Egg Food, Chick Food, Blood Meal, Meat Meal, Beef Scraps, Shell, Grit, Bone, Etc.**, on the basis of **quality first**, and prices as low as we can make them.
A. C. W. Egg Food holds the California Record for Egg Production.
If your dealer cannot supply you, we will direct.

Agricultural Chemical Works

Phones: Home 6063; Sunset, Boyle 3. 901-907 Macy St., Los Angeles, Cal.
Write for "Hen Hints," a book of valuable information free.

Queries and Replies

FERTILIZER FOR BERRIES.

Editor Cultivator: Please inform me through your columns what amount and what time to apply fertilizer to Logan and blackberries grown in medium light soil at Redlands.—G. R. S.

Nothing gives better results than good stable manure. Apply now, in generous quantities, and later plow and work well into the soil. You will hardly use too much.

PRUNING AND CULTURE.

Editor Cultivator: (1) What is the best time for pruning fruit trees, such as apricot, peach, pear, plum and apple, and how should grape vines be pruned to insure best results in fruits? (2) How can potatoes be prevented from becoming wormy? When first dug they were apparently sound and good, but after they were sacked and put away they became full of worms. (3) Is it best to water strawberries and keep them growing or should they be allowed to rest through the winter.—Mrs. B., Santa Barabra.

(1) Apricots are best pruned as soon as crop is off, or they may be pruned during the winter, which is also the time for pruning all other deciduous fruit trees. Grapes grown for various purposes receive pruning "each according to his kind." See article by Mrs. Sherman on page 499, issue of November 24.

(2) We have never heard of potatoes becoming wormy until after they had rotted, and this must be the condition of yours; immediate sorting is the only remedy.

(3) You will doubtless do best by letting your strawberries rest; seldom do they need watering in winter under any circumstances.

POTATO CULTIVATION.

This is a very important operation, and must be attended to at the proper time if the crop is to be kept clean and thrifty at a minimum cost. The neglect of a few days in one cultivation may mean the difference between profit and loss. Cultivation should begin by stirring the soil with a weeder or smoothing harrow within one week from the time of planting, and the operation repeated every week or ten days as long as the size of the plants will admit, the objects sought being to prevent crusting of the surface soil and the extermination of weeds before they have gained foothold in the soil.

The horse cultivator will next be of service in cultivating the crop, and should be run quite deep for the first cultivation, after which all operations should be shallow, as deep cultivation after the plants have become well established causes untold injury to the roots feeding in the top soil.

The amount of hand hoeing necessary will depend upon the thoroughness of the above operations and the amount of grass and weed seeds in the soil. If the weeding and cultivating has been faithfully done, the only necessary hand work should be in the removal of the scattering weeds along the row.

Blue Andalusians For Sale

Several pairs and trios of handsome Blue Andalusians. Exhibition or utility birds. Eggs for hatching, $2 for 15. ***Mrs. J. F. Duff, 3145 S. Hoover St., Los Angeles, Cal.***

United States Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, December 11, 1905.

General Summary.—Cool and clear weather prevailed nearly all the week in the central and northern sections and frosts were of frequent occurrence. In Southern California the weather was warm, clear and very favorable for citrus fruits and farming operations until Saturday, when the most severe winds and sandstorms of recent years occurred, continuing through Sunday and causing great damage.

In the central and northern sections the rain of the preceding week was less beneficial than anticipated, owing to continued cool weather and drying winds, but in some districts the precipitation was ample for present needs and enabled farmers to resume plowing and seeding. As a rule the rainfall was not sufficient to start grass and feed is very scarce. The soil in the San Joaquin and Sacramento valleys is very dry and farm work is practically at a standstill, but conditions are somewhat more favorable in the coast districts. In Southern California the season has been unusually good until near the close of the present week, and early sown grain and pasturage were in excellent condition, but it is probable the drying winds and sandstorms have had an injurious effect on all crops.

It is reported that much damage was done to the orange and olive crops in Southern California by the high winds on the 9th and 10th. The storm extended over San Bernardino, Riverside, Orange, San Diego and Los Angeles counties. In many places the fruit was blown from the trees and in some orchards the trees were broken and uprooted. Orange picking and shipping are progressing in all sections and the crop is nearly all harvested in the Porterville district.

Eureka Summary.—Weather continues cool, with frosty mornings. Grass is growing slowly. Some plowing.

Los Angeles Summary.—Drying land winds during the week turned into severe norther Saturday, with sandstorm in the interior. Reports so far do not state effect except that a few say some oranges were blown off and trees uprooted.

Ventura County ranchers get five dollars per ton for baled bean straw, in the field. It is used for cattle feed mixed with beet pulp and in some cases it is fed to horses.

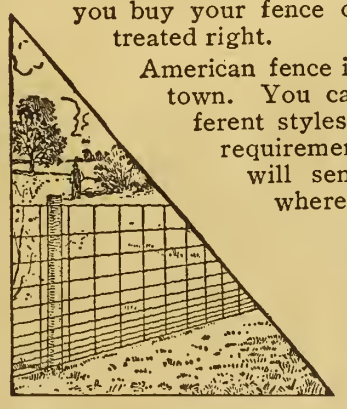
AMERICAN FENCE TALKS

BY THE MAKERS

The structure of the American Fence is perfect. It is built of big, solid, lateral wires, with the upright or stay wires hinged. This is the most perfect structure for a square mesh fence and is covered by patents which cannot be assailed.

There are many fences on the market. Some tell of their wonderfully hard wire; others speak of new forms of construction that make all other forms look ancient and worthless. But through all this it remains a fact that more miles of American fence are in use than of all others combined, and will continue so.

We do not sell direct—we sell through dealers all over the country. Only in this way are the buyers' interests looked after. The dealer becomes your business friend and when you buy your fence of him he will see that you are treated right.



American fence is for sale with the dealer in your town. You can find it there, examine the different styles and make a selection to suit your requirements. Or, write us direct and we will send you a catalogue and tell you where you can get the fence.

The American Steel and Wire Co.

CHICAGO DENVER
NEW YORK SAN FRANCISCO

The Stockton Incubator

Is now manufactured under new management and is in every way put up as a first-class machine. Our 1906 model is a perfect working incubator, economical to run and gives a fine hatch.

Winner of silver medal at Pan-American, also medal at California State Fair. Write for circular and information.

Stockton Incubator Co.

Marshall & Barnes, Props. Stockton, Cal.

"Dependable Furniture at a Fair Price."

Suitable Furniture Gifts

When you are considering what you should buy for Christmas presents, do not overlook the varied assortment of suitable gifts to be found in the furniture line, and before you make your purchase you should see our stock.

In all of your giving do not offer anything of inferior quality; it need not be expensive, but it should be of the highest grade.

Quality furniture at reasonable prices have been the making of our store and the builders of our immense trade. We handle only such lines as we know are thoroughly dependable and that we can fully guarantee.

We have thousands of pieces which would make excellent gifts for either gentlemen or ladies.

A piece of furniture is a sensible present, useful, durable and ornamental.

"All Goods Marked in Plain Figures."

NILES PEASE FURNITURE CO.

439-441-443 SO. SPRING ST., LOS ANGELES, CAL.

When writing to Advertisers Please mention Cultivator

PROGRESS.

That we all are here through struggle,
through the fruits our fathers won,
Makes us brothers strong and worthy
in the course still to be run—
What shall say the end is useless, or
the mighty labor done?

Systems still are blown to atoms and
the earth will meet its doom,
In the eye of all the heavens man is
ever in his tomb,
But we see the smallest blossom still
outbursting into bloom.

Just alone that man is noble, just
alone that he have worth,
Just alone that he shall ripen what
was seed in him at birth,
Is a more imperial problem than the
end of all the earth.

Human progress still points peace-
ward and still further from the
brute—
Let the end be hidden from me, let
eternity be mute,
I will struggle on and upward as the
flower from the root.

J. Oppenheim in Youth's Companion.

Courtesy of Cal. N. W. Ry.

CLOVERDALE, SONOMA COUNTY, IN MIDWINTER.

Nestled away among the hills of Northern Sonoma County, in a little cove at the head of the Russian River Valley, lies the little city of Cloverdale—"The Citrus City of the North" with a population of about 1000, and incorporated as a city of the sixth class. Other places in California can raise their oranges, their lemons, and their olives, but none produce a better fruit, or with less care and attention, than does the Cloverdale citrus belt.

Miss Mattie's Relaxation

It was summer. The birds told that from the top of the old maple. Miss Wharton's one small maid announced it when she came in, arms akimbo, with:

"The ice is all melted entoirely, ma'am. Shall oi get some more, oi don' know?" And Miss Wharton's sewing machine announced it by a pile of thin stuff waiting to be made into dresses.

"I wonder now," said that young woman to herself, as she sat on the edge of her bed with last summer's gowns before her; "I wonder if I couldn't do something to this shirt-waist. If Mattie would stay at home for even one afternoon in the month. That would be quite parliamentary.' And it was only by the Lord's mercy oi didn't say oi'd like to lay her on the shelf. Here she comes now, ma'am, lookin' loike a carpse. Oi'll be afther makin' her a cup o' tay."

She looked as though she needed it, poor Mattie, as she threw herself into a great willow rocker.

"You looked fagged out," was the consolinig remark of her anti-club sister.

"Fagged!" said the energetic Miss Mattie disdainfully, "I'm as fresh as a northcaster. I been learning how to rest today. I suppose you think that resting should come 'sort o' nateral,' but it doesn't. Nothing is natural in these days. You have to be taught everything. I thought before I went to that rest club that I knew a thing or two—but I don't. I don't even know how to smile properly.

"Most persons have an idea that a smile means the general stretching of the muscles of the face. Not at all, my dear. When you smile you should use the upper lip only. Save the energy you would put into the lower one for some other time. So; Look at me, now!" And the poor deluded club woman put on a most agonized expression, stretched her upper lip in a spasmodic manner, and then let the muscles relax.

"Don't!" said Miss Wharton, feebly. "Don't learn how to smile. Nature never meant you to distort your face in that way."

"Distort!" exclaimed Miss Mattie, waxing eloquent. "Just wait 'til I've practiced it awhile. In a few days it will look better. If you could see that rest-teacher smile, there would be no greater advocate of the relaxing method than yourself."

"Just what do you mean by relaxing?" asked Miss Wharton.

Her sister looked at her pityingly. "Why, I mean," she answered vaguely, " why—a general giving in, you know. A general relaxing that is. The first thing that teacher said to us when she entered the room, was—'Now, ladies, rest yourselves.' Then she fell—yes, fell—into a chair, quite beautifully, you know. And the way she rested was a dream. Then we tried to do the same—and were nightmares.

"The trouble is we're not inanimate enough when we rest. We shouldn't think or breathe, unless we do it in the right way. Why, that woman has given us an exercise which, if we keep up, will make us Junos. She has already shown us how to rise from a chair gracefully. Simply poise yourself; get your equilibrium established and don't clutch at things. You always do that."

"When are you going to get the time to practice all this?" asked Miss Wharton, camly.

"Wait and watch!" replied Miss Mattie. "I shall ask you to help me this evening."

"No! It wasn't an earthquake or burglars that caused the unearthly sounds that night. It was simply the club-woman going through relaxing evolutions. Charming they were, and pleasant to behold.

"Are ayther av yez fallin' out av bed?" queried Annie, with her gentle Hibernian accent.

"Oh, is that you, Annie?" asked Mattie. "Come in here, please. I'm resting and—" There was genuine alarm on Annie's honest face, as she beheld her young mistress flat on her back on the floor.

"Now, here you," said Miss Mattie, as she waved her arms wildly about, "just lift my hand up by raising the wrist and I will use no force whatever and let it fall naturally. That is relaxing, you know." She declared it never hurt at all when her knuckles came thumping down on the hardwood floor, though she sent Annie for arnica afterward.

May kind fate preserve us from knowing how to rest. Miss Mattie "pawed" and "swam." She jumped and twisted, and became so utterly worn out in that resting process that she had to give up the next day's reading club. Annie tucked her in bed herself that night; gave her a cold lemonade and a pitying smile. Then, as she turned out the light and tiptoed softly from the room, Miss Mattie heard her mutter: "If she's not an insane lunatic, I never saw one. If iver the other is tuk that way, oi'll move to adjourn, begobs!"—Katherine Carmichael.

SHE WAS GRATEFUL.

Mr. Brown's business kept him so occupied during the daytime that he had little opportunity to enjoy the society of his own children. When some national holiday gave him a day of lesiure his young son was usually his chosen companion. One day, however, Mr. Brown, reproached by the wistful eyes of his seven-year-old daughter, reversed the order of things, and invited the little girl to go with him for a long walk.

She was a shy, silent, small person, and during the two hours' stroll not a single word could Mr. Brown induce the little maid to speak, but her shining eyes attested that she appreciated his efforts to amuse her; indeed, she fairly glowed with suppressed happiness.

Just before they reached home, however, the child managed, but only after a tremendous struggle with her inherent timidity, to find words to express her gratitude.

"Papa, what flower do you like best?" she asked.

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

Ostrich Plumes MADE OVER

We clean, redye, make over and curl boas, tips, plumes, etc., and add new top feathers to plumes when necessary. Send your work at once or write for prices. Satisfaction guaranteed.

CAWSTON OSTRICH FARM AND FACTORY
P. O. Box 1072, South Pasadena, California

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

How to Organize
A Farmers' Telephone Co.

We have published a very instructive telephone book especially for the man who wants to know ALL about telephone matters. It tells how to organize, how to build the lines; about different types of 'phones, construction; gives by-laws, and constitutions; in fact it is a telephone encyclopedia every farmer should have. We send it free if you mention this paper. Ask for Book 71C, "How the Telephone Helps the Farmer." You will get it by return mail. Address nearest office.
Stromberg-Carlson Tel. Mfg. Co.
Rochester, N. Y.—Chicago, Ill.

"Why, I don't know, my dear—sun-flowers, I guess."

"Then," cried the little girl, beaming with gratitude, "that's what I plant on your grave."—Woman's Home Companion.

THE DOCTOR'S PATIENT.

This story was told at a recent meeting of a medical society in this city:

A physician practicing in one of the smaller cities up the State was aroused at midnight by an inebriated individual who insisted that the man of medicine accompany him immediately to his home, three miles back in the country, says the New York Mail.

"Ser'ous case, doc," said the caller "Mush come 'medjtly."

The physician protested that his man was absent and there was no one on the premises who was able to hitch up the horse.

"'Sall right," said the insistent one. "I'll hitch 'm in shiffy. Showmeen."

"You understand, of course," warned the doctor, "that while my charge for a call in that district is $1 in the daytime, I'll have to charge you $2 for going out there at this time of night."

For answer the caller placed a $2 bill in the doctor's hand.

They went out to the barn, the stranger hooked the horse up in no time at all, and they set out for the back country at a good pace. Arriving there, Sawbones asked to see the patient. The inebriate one tumbled out of the buggy and leered at the other as he said:

"I'm ze only patient. Tell yer how 'tis, doc. I went zer li'vy stable, see! Asked liv'ryman how much sharge take me home. 'E sez $4, 'n I sez's outrache. Sez I kin git home for $2 'n sez 'e'l bet $10 I can't. Mush 'bliged t' you, doc, r' puttin' me $12 ahead of the game."

What the physician said was not reported for publication.

HIS HOUSE WAS NEARER.

A Springfield clergyman is telling a story of his last vacation, which is probably better appreciated by his fellows who have served the Lord in the villages than by those members of the profession who have ministered only to the city charges.

"I took over a pulpit in a little country town about twenty miles from here," he says, "conducted services to an end, then waited for the usual invitation to dinner. Because of some reason it did not come. I was hungry as a bear; so, finally, in desperation, I approached a prosperous looking farmer whom I had met before the service and said: "Brother, won't you come home with me to dinner?' 'Gladly, parson,' he answered, 'where do you live?' 'About twenty miles from here,' I answered, as airly as possible. For one moment he looked dumfounded, then he saw the fun of the situation, and his hard old face broke into a thousand wrinkles as he grasped my hand and said: 'Parson, let's go over to my house for dinner. It's a heap nearer than yourn.'"—Boston Globe.

As a rule women are more liberal than men. The wife who has a mind of her own is continually giving her husband pieces of it.

Probably nothing jars a man like the discovery that he has been sucking a suspender button for ten minutes under the impression that it is a cough lozenge.—Chicago News.

Cookery Recipes

GRANDMA PHELP'S PUMPKIN PIE.

The Los Angeles Express says: "This pie is made by 'Grandma' Phelps, who is famous all over this well known pie belt as a maker of the pumpkin delight. Mrs. Phelps could, if she would, make pies from daylight to darkness and still hear calls for 'more!' She has written out her recipe expressly for this newspaper.

Cut up a part of a pumpkin, wash, and boil with the rind on until well cooked.

Run through a colander to separate rind from pumpkin.

To make two pies take a quart of the pumpkin and mix it with the following:

Two eggs.

Two-thirds of a cup of granulated sugar.

One teaspoonful of ginger.

One-half teaspoonful of cinnamon.

A pinch of salt.

Enough sweet milk to bring whole to the right consistency.

Pour on crust in tins and bake in moderate oven until nicely browned.

Grandma Phelps doesn't give a recipe for the crust.

"No use telling a woman what to put in it if she can't make the crust," she says, and what Grandma Phelps says goes.

* * *

BEATEN LAYER CAKE.

Put in a bowl 2 cups of flour, add 2 teaspoons of baking powder; beat the yolks of 2 eggs, add to them 1 cup sugar and the rind and juice of one lemon; add the flour and powder to this, and 2 cups cold water and a pinch of salt, then add the whites of the 2 eggs, beaten stiff. Bake 15 minutes in a hot oven. A very nice and good cake for lunches. Try it, sisters, and you will always use it.—A Lassie.

* * *

BREAD PUDDING.

If one has some cornbread left from a previous meal, by all means use that. Take equal parts of cornbread and white or graham bread and break up in a pudding dish. Cover with sweet milk and let soak for twenty minutes at least. Beat one egg until it is very light, and then add it with sugar (to taste) and spices, or the preferred flavoring, to the bread and milk. Bake in a moderate oven for about half an hour. Serve cold with whipped or plain cream.—Winnifred.

* * *

POTATO AND MEAT SCALLOP.

Here is a good and tested recipe for supper or dinner. Prepare raw potatoes, sliced thin, twice the quantity of any cold meat you may have, roast or boiled beef, lamb or veal. Chop one onion fine, put a layer of potatoes in the bottom of a buttered dish, then a thinner layer of the meat and salt, pepper, butter and onion, and proceed, scallop fashion, having the last layer potatoes. Pour over any left-over gravy and plenty of water, cover and bake one hour.—A Lassie.

* * *

BOILED FISH.

Editor Cultivator.—I would like to tell the readers that in boiling fish it is not necessary to do it up in a cloth; but put an onion in the water with the fish. It will not taste and the fish will remain whole. Now that eggs are high, use a teaspoonful of cornstarch for one egg, putting it in the last thing.—Mrs. G. B., Los Angeles.

HOMELY HINTS.

Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value when taken into the human system for the same cleansing purpose.

Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion. It whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

* * *

Rapid eating is slow suicide.

A lump of sugar saturated in vinegar is efficacious in most cases of hiccough.

In sleeping in a cold room establish a habit of breathing through the nose, never with the mouth open.

A severe paroxysm of coughing may often be arrested by a tablespoonful of glycerine in a wine glass of hot milk.

To compel a child to eat anything against which its palate naturally rebels is a cruelty at the moment and is likely to produce evil effects later on.

A few drops of the tincture of benzoin put into the water in which the face is bathed will prevent the shiny appearance of the skin with which so many people are affected, especially in warm weather.

A GOOD BEEFSTEAK.

This, from an article on Bohemian life in Paris by Thackery, is enough to make a strict vegetarian hold up his hands in horror:

"After the soup, we had what I do not hesitate to call the very best beefsteak I ever ate in my life. As I write about it now, a week after I have eaten it, the old, rich, sweet, piquant, juicy taste comes smacking on my lips again, and I feel something of the piquant sensation I then had. I am ashamed of the delight which the eating of that piece of meat caused me.

"G. and I quarrelled about the soup, but when we began on the steak, we looked at each other and loved each other. We did not speak; our hearts were too full for that. But we had a bite, laid down our forks, looked at each other, and understood each other. There were no two individuals on this wide earth, no two lovers billing in the shade, no mother clasping her baby to her heart, more extremely happy than we.

"As you may fancy, we did not leave a single morsel of the steak; but when it was done we put bits of bread into the silver dish and wistfully sopped up the gravy. I suppose that I shall never in this world taste anything so good again."

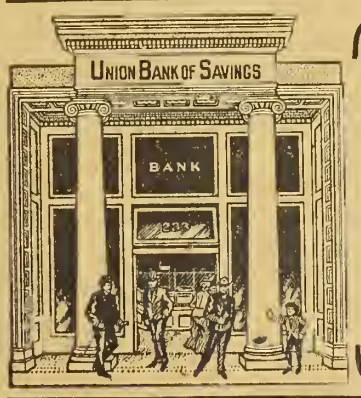
The Quality Store

M. & B. CLOTHES

The kind that fit and wear well, are made with style and are backed by the time-honored mark, the guarantee of this label

Mullen & Bluett Clothing Co.
Los Angeles.

Spring and First Sts.



Union Bank of Savings

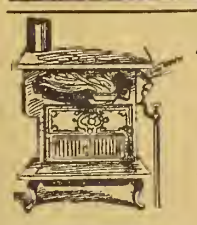
RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits 4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.



BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

Oh! What A Difference

IN THE MORNING

Especially wash day morning when you use a

WHITE LILY WASHER

JUST TRY ONE

Ask your HARDWARE DEALER for the WHITE LILY

WHITE LILY WASHER CO.

1539 Rockingham Rd, Davenport, Iowa

SUCCESS
GASCLINE AND DISTILLATE
ENGINES
STAND
EVERY
TEST

PRICES— 2½ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

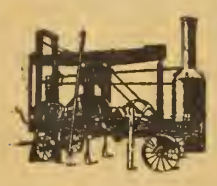
M. C. TUNISON
1000 N. Main St. - Los Angeles, Cal.

A Sharp Razor
Makes Shaving Easy

It is a pleasure to shave when your razor is sharp. With "Every Man's Dry Hone" you can give your razor a keen cutting edge with a few strokes. It is a perfect hone, made for home use, and guaranteed to give satisfaction or money refunded. No water or oil necessary—self lubricating. Always ready.

Mailed on receipt of $1.00. Send in your order now, while you are thinking about it. Be ready for your next shave.

REDLANDS HONE CO. 70 Orange St., Redlands, Cal.



WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St. Waterloo, Ia

WOODMANSE STEEL WINDM LL
BEST MILL ON EARTH

On account of its removable bearings will pump more water than any mill on earth.

F. H. OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

"GOPHER DEATH"
Kills Gophers, Squirrels, redents 1500 t blets in box. 1 tablet kills a gopher, Price $1.25.

"RATICIDE"
Kills Rats and Mice. Price 25c. Ask your druggist for either, or send price, and we will forward free of charge. Send for sample or circular. FORT DODGE CHEMICAL COMPANY, 303 California Street, San Francisco

THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

A NEW TRAIN
The Los Angeles Limited
DAILY BETWEEN
Los Angeles & Chicago
66 HOURS VIA
SALT LAKE ROUTE
UNION PACIFIC
CHICAGO & NORTHWESTERN

A Solid Through Train consisting of Standard and Tourist Sleepers, Dining Cars, Library-Buffet and Observation Cars, steam heated and electrically lighted throughout.

ALL TRAINS RUN THROUGH SALT LAKE CITY. THE SCENIC TRIP OF AMERICA

Information and literature gladly furnished at our City Ticket Office, 250 So. Spring St., or First Street Station. Phones Main 352-4095, Home 352-490.

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt. T. C. PECK, Asst. G. P. Agt. Los Angeles, Cal.

Los Angeles Markets.

Los Angeles, Dec. 14, 1905.

Butter and cheese remain unchanged, while fresh ranch eggs have dropped 5c from last week's quotations, but lower grades remain unchanged. Potatoes are scarce and firm as quoted, as are tomatoes and peas. Onions are firm and an advance expected soon. Fresh deciduous fruit in fair supply, and the market easy. Citrus fruits are coming in for the holiday trade and selling fairly well.

Butter.

B. of T. Creamery, per roll..65@67½
Valley Creamery, fancy....65@67½
Valley Storage .....55@57½
Fancy Dairy .....50@52½
Cooking .. ..20@22

Cheese.

Cal. 3-lb hand 19½
Cal. Young America 18½
California Anchor 17½
Northern .. ..16@17
Domestic Swiss 18
Imported do 28

Eggs.

Eggs, Fresh Ranch 35
Eastern and Storage.....32@33
Seconds... 22

Poultry.

Fryers, 2½ lbs.....14
Broilers, under 2 lbs.. per lb.....16
Young Roosters, per lb.....14
Hens, per lb.....14
Ducks, per lb 13
Geese 13
Turkeys 18

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt.....5.75
Prime Steers, cwt 3.50
Cows, cwt 2.85
Calves, cwt 4.50
Sheep, ewes, per head.....4.00
Lambs, do 3.25
Wethers, per head 4.50

Potatoes.

Northern, per sack.. .....$1.15@1.75
Locals, per cwt .....1.10@1.25
Sweets, white, per cwt.....1.00
Sweets, yellow 1.25

Vegetables.

Onions, Silver Skins, cwt.....1.75
Onions, yellow, per cental.....1.40
Garlic .. ..7@8½
Cabbage, per sack .....40@50
Cauliflower, per doz .....25@30
Bell Peppers .. ..4@5
Wax Beans .....5@7
String Beans .....6@6½
Lima Beans .....3@3½
Cucumbers, per box 1.00
Green Onions, doz bunches ..20@25
Carrots, doz. bunches.....30
Turnips, doz. bunches .....20@25
Celery, dozen .....30@75
Peas, per lb 6½
Egg Plant .. ..3@3½
Chili Peppers, green 2
Chili Peppers, dry .....15@20
Tomatoes, local 40
Parsley, per doz. bunches.....30
Summer Squash, bx 20 lbs....40@50
Green Corn, per sack .....75@1.25

Citrus Fruits.

Lemons, Standard 1.50
Lemons, Choice .. ..2.00@2.25
Lemons, fancy 3.00
Grapefruit .. ..1.75@2.50
Seedless 3.50
Navels .. ..1.45@1.85

Fresh Fruits.

Apples, Bellefleur .. ..1.25@1.65
Fall Pippins .. ..2.00@2.50
Apples, W. W. Pearmain ..1.25@1.50
Strawberries, per crate ....3.00@3.50
Raspberries .. ..15@20
Persimmons, per lb .....4@6
Figs, per box 1.25
Black Figs 1.25
Muscats .. ..90@1.75
Tokays .. ..1.35@1.75
Red Emperors, per lb 6
Pears, Winter Nellis, per lb 4
Casaba Melons, large crates 2.25@2.75

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11; fy 8½; ch, 7½.

Peaches, fy, 8½@10½; ch, 7½@8.

Santa Clara Prunes, 30-40, 8c; 40-50, 7c; 50-60, 6c; 60-70, 5½c.

Loose Muscatel Raisins, 2-crown 5¾c; 3-crown, 6¼c; 4-crown, 6¾c.

Beans, Dried.

Limas .. ..4.75@5.00
Pinks, fancy .....2.50@2.65
Lady Washington .....3.00@3.10
Navies .. ..3.50@3.75
Black Eyes .. ..5.50@6.00

Nuts.

Walnuts, No. 1, soft shell 14½
Do, No. 2 .....8@10
Do. No. 1, hard shells.....12
Do. No. 2, hard shells.....10
Almonds, paper shell .....15½@16
Almonds, soft shell.. 14
Peanuts, California 6½

Honey.

Honey, comb frames 16
White, strained, per lb.....7
Amber 12½
Beeswax 27

Hay.

Barley .. ..12@14.50
Alfalfa, local .....13@13.50
Alfalfa, Northern .....11@12.50
Wheat .. ..13.50@14.50
Tame Oat .....11@18.50

Grain.

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran 1.30
Feed Corn Meal 1.55
Shorts 1.45
Wheat .. ..$1.65@1.70
Cracked Corn 1.50
Oil Cake Meal 2.10
Cocoanut Meal 1.55

Two train loads of vegetables were shipped Saturday from Los Angeles to the East. This collection has been assembled by the California Vegetable Union, which announces that every pound has been sold f.o.b. California. It includes thirty-seven carloads of celery from Orange county, four carloads of mixed vegetables, two of cauliflower and one of cabbages from Los Angeles, to total of forty-four carloads.

San Francisco Markets.

San Francisco, Dec. 13, 1905.

Butter.

Quotations in the butter market were of satisfactory proportions yesterday and the general undertone was steady. Available supplies of fresh lines of butter fully balanced trade wants and offerings of extras were well absorbed at the quoted basis price.

Fresh California, extra.....29
Eastern extras 25½
Storage, California, extras 25

Cheese.

California, new 14¼
California firsts 13½
California seconds 12½
Eastern, Cheddars 15½
Storage, California 13½
Storage, Eastern 15

Eggs.

The scarcity of selected Ranch Eggs continued most pronounced yesterday and the market held a strong position in favor of sellers, who were able to secure practically any price they desired to ask.

Eggs, fresh ranch 53
Eastern and Storage 28½
Seconds 23½

Poultry.

Plenty poultry in market but prices firm as quoted below:

Old Roosters, per doz.....$4.50@5.00
Young Roosters, per doz....5.50@6.50
Hens, per doz .....4.50@5.00
Ducks, per doz 5.50
Turkeys, per lb.....18@20
Geese, per pair .....$2.00@2.25

Live Stock.

Hogs are in lighter receipt and under an active demand are quoted firmer, medium weight stock being held at a fractional advance and values for the light and heavy grades showing a narrower range.

Hogs, per lb., 80 to 130 lbs., ...5¾c.
Hogs, per lb., 130 to 250 lbs.....6c.
Hogs, per lb., 250 to 350 lbs.....5½c.
Hogs, per lb., rough heavy.3½@4½c.
Prime Steers, lb .....6½@7½
Cows, lb .....5@5½
Calves, lb .....4½@5
Sheep, ewes, per lb.....3½@4½
Lambs, per head .....3.00@3.50
Wethers, per lb.....4½

Potatoes.

River Burbanks .....50@85
Oregon Burbanks .....85@1.10
Salinas Burbanks .....1.10@1.40
Sweets, Merced .....50@1.00

Vegetables.

Onions, yellow, per sack...$1.20@1.40
Bell Peppers .....10@12½
Chili Peppers .....4@6
Cucumbers, per box .....75@1.25
Tomatoes, per box, Bay.....65@85c.
Tomatoes, per box, Southern 75@1.00
String Beans .....8@10
Wax Beans .. ..9@11
Egg Plant, per crate.....2.00
Summer Squash, per box....75@1.00
Green Peas, per lb.....5@8c.

Citrus Fruits.

Navels, fancy .....1.75@2.50
Seedlings .. ..75@1.25
Lemons, standard .....1.50@3.00
Limes .. ..4.00@5.00
Grapefruit .. ..1.50@2.50
Tangerines .. ..1.00@1.25

Fresh Fruits.

The demand for apples was active and the market reflected the firmness noted for some days past. The best selections were in sharp request and

readily commanded full rates. Grapes were mostly of low quality and continued largely nominal in price. Strawberries were in light supply at the quoted rates.

Apples, per box.....$1.60@1.75
Apples, fancy .....$1.25@1.50
Strawberries, per chest....4.00@5.00
Cranberries, per bbl.....15@16
Grapes, per box or crate ....75@1.25
Pears, per box, Winter Nellis .. ..2.00@2.50

Beans, Dried.

Limas .. ..4.20@4.30
Pinks .. ..2.00@2.15
Small Whites .....3.15@3.25
Black Eyes .....4.50@4.75
Bayos .. ..3.50@3.75
Red Kidney .. ..$3.25@3.75
Horse Beans .....$1.25@1.85

Hay.

Barley, new .....$8.00@11.00
Alfalfa .. ..7.50@12.50
Wheat .. ..11.00@16.50
Oats .. ..9.00@13.50

Grain.

Wheat .. ..$1.33½@1.36¾
Barley .. ..1.20@1.22½
Corn .. ..1.37@1.40
Oats .. ..1.37@1.50
Rye .. ..1.45@1.52
Rolled Barley, per ton.....$26@27.50
Bran, per ton .....19.50@20.00
Feed Corn Meal, per ton..29.50@30.50
Middlings .. ..½.....26@30
Cracked Corn, per ton.....30@31
Oil Cake Meal, per ton.....37.00
Cocoanut Cake, per ton.....22.00

Hops.

Grades .. ..9½@11c

CITRUS MARKETS

New York, Dec. 13.—Four cars of citrus fruit sold at the auction here today. The market continues very strong. The weather is favorable.

Navels.

Averages

Ballet, xf, Sparr Fruit Co.....$2.30
E. E. Potter's Brand 2.15

Lemons.

Averages

Protection, fy, Ohio Lemon Co.$2.25
Buckeye ch, Ohio Lemon Co .. 2.00
La Colina 2.30
Pride of Lakeside 2.20
Pride of Lakeside 1.95
Red Crown 1.95

Boston Markets.

Boston, Dec. 13.—Five cars sold at today's auction. The market is firm on good stock.

Navels.

Averages.

Mariposa, fy, C. C. U., Lindsay .$2.65
Hollywreath, fy, C.C.U., Lindsay 3.00
Evinger's fy, D. R. Evinger 3.05
Niagara, xf, Stewart Fr. Co.... 2.95

Seedlings.

Averages.

Niagara, xf, Stewart Fr. Co....$2.15

Lemons.

Averages.

Southland Beauties, fy, Queen Colony Fruit Exchange.....$3.00
Leader, xc, Queen Col. Ex..... 2.65

Cleveland Market.

Cleveland, Dec. 13.—Four cars sold at the auction here today. The market is steady.

Navels.

Averages.

Gavilan, fy, San Jacinto Land Co $3.00
Niagara, xf, Stewart Fr. Co..... 2.45
Mistletoe, ch, C.C.U., Porterville 2.70

Cincinnati Market.

Cincinnati, Dec. 13.—One car sold at the auction today. The market is very strong.

Navels.

Averages.

X.X.X., xc, Semi-Tropic Ex....$2.55
E.E.E., st, Semi-Tropic Ex..... 2.25

St. Louis Market.

St. Louis, Dec. 13.—Five cars sold at the auction today. The market is very strong, especially so on large sizes. The weather is favorable.

Navels.

Averages.

Volunteer, xc, San Antonio Ex..$2.80
Pepita 2.70

Lemons.

Averages.

Iris, xf, Duarte-Monrovia Ex....$3.15
Success, xc, F. H. Speich & Co.. 2.60
Serenade 2.20

Seedlings.

Averages.

Niagara, xf, Stewart Fr. Co.....$1.95

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

CONGESTIVE CHILL.

Editor Cultivator:—I have a cow which calved two months ago. Since then, at times only, she has developed a hardened section in udder (left hind portion), which passes away during twelve hours. I rubbed it and bathed with hot water and applied lotion. The portion affected was sore to the touch. The day after she was bred she went down in her milk flow and her stomach seemed compacted, also a little gas formed; her breathing somewhat labored and appetite almost gone.

When first taken sick she seemed very hot and had shivering fits in hind quarters; her tongue appeared to be swollen. I gave her first night seven teaspoonfuls of spirits of turpentine and half a pound of salts; her bowels moved slightly, and since then in the course of thirty-six hours I have given her two pounds of salts. She only, as yet, has had slight motions and her stomach still seems compacted.

Since stricken I have only noticed her chewing her cud once for a very short while.

Have fed her slightly on good alfalfa hay, giving her warm water drinks; have kept her in warm barn.

I am always interested in your valuable veterinary department, and will be greatly obliged if you will kindly name disease and give a a remedy for same.—"Joey," Gardena.

Your cow took cold and had a congestive chill. She should have had a good stimulant at the time. The salts should have cleaned out the stomach and bowels so that she would have digestion established and chew the cud.

Give teaspoonful of the following twice a day:

Nitrate potash, 1 pound; nux vomica powder, 4 ounces; willow charcoal, half pound. Mix.

* * *

WARTS ON TEATS.

Editor Cultivator:—As I am a subscriber to your valuable publication, I would like to ask you to print in the Cultivator a remedy for warts on cows' teats.—C. P. E. Hynes.

Clip the warts off with small pair of sharp scissors, close to teat, then touch the parts with pencil nitrate silver.

* * *

PREVENTING HEAT IN COWS.

Editor Cultivator:—What kind of medicine is used to stop a cow from coming in heat every month? We have had considerable trouble with our cows this year. They will come around several times before they catch. They say that there is a medicine that will stop such trouble.

We have a cow that is nearly a bull herself. She is in heat all the time. We have to keep her from the herd. What is the cause and is there a remedy?—J. J. G. & Co., Pomona.

Teaspoonful iodide potassium once a day will be beneficial.

The Las Vegas Land & Water Co. have just completed the installation of their water system at the new town of Las Vegas, Nevada City, Utah. This ranges in size from 4 to 18-in. and will be operated under 60 pounds nominal pressure and 100 pounds fire pressure. An ample number of both single and double nozzle independent acting hydrants were connected with the system throughout the town. All fittings furnished are cast iron and Crane's standard valves were used throughout. The pipe used is Machine Banded Redwood Stave Pipe made by the National Wood Pipe Co. of Los Angeles, California, who installed the entire system. This pipe is especially adapted where alkali conditions prevail with acidulated [illegible] water strongly mineralized.

Waite, Bailey & Lynch, buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, etc. Otto gasoline engines, all sizes, to 200-H. P., better built, more economical, therefore superior to all others; prices and terms that will insure due consideration. 943-945 N. Main st., Los Angeles, Calif.

FACTS ABOUT CANCER.

A new booklet published at considerable expense by L. T. Leach, M. D., of 416 Main street, Dallas, Texas, tells the cause of Cancer and instructs in the care of the patient. Tells what to do in case of bleeding, pain, odor, etc., and is a valuable guide in the management of any case. It advises the best method of treatment, and the reasons why. In short, it is a book that you will value for its information. It will be sent by mail, prepaid, on receipt of ten cents, stamps or coin.

The S. J. Smith Machinery Co. will move this week into their new storeroom, 212-214 South Los Angeles street, Los Angeles, Cal., where they will have one of the handsomest and best equipped machinery salesrooms on the coast.

FOR SALE

One Holt 65 H. P. Agricultural traction engine, with extra wide wheel base, with water wagon, plow cart, and all necessary attachments.

One Holt Junior Combined Steam Harvester, fully equipped.

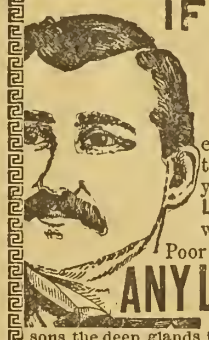
Six Stockton Five-Gang Plows, Disc, Seeder, etc.

All in thorough repair, and used but two seasons; for sale on account of lands being subdivided, and sold off by the Chino Land and Water Company.

Chino Land and Water Co.,
20 Trust Building
2nd and Spring Sts., Los Angeles

FITS EPILEPSY
CURED TO STAY CURED
Eminent Judges, Ministers, Congressmen and the medical press declare my cures permanent. I cure after others fail. It doesn't matter how severe the case, I can cure it. I want to send you the proof. I will send you my booklet on Epilepsy by return mail FREE. Write to-day.
Dr. W. Towns, Fond du Lac, Wis.

I WILL GIVE $1000
IF I FAIL TO CURE ANY CANCER OR TUMOR
I treat before it Poisons Deep Glands or Attaches to Bone.
NO KNIFE OR PAIN, NO PAY UNTIL CURED.
NO X-RAY OR OTHER SWINDLE.



A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. **3000 CANCERS** cured on people you can see and talk with. **ANY TUMOR, LUMP OR SORE** on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.

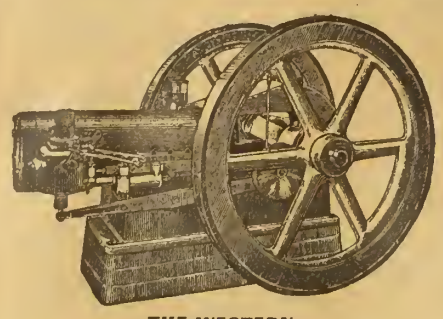
ANY LUMP IN WOMAN'S BREAST IS CANCER
It does not pain until almost past cure, and if neglected it **ALWAYS** poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. **INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK,** sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.
DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]
23 AND 25 THIRD ST., NEAR MARKET ST., SAN FRANCISCO.
PLEASE SEND THIS TO SOME ONE WITH CANCER.

MALTHOID ROOFING
PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay. Will not deteriorate with age.
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.
THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

Cylinders
In Fifty sizes and lengths
For Every service
ALAMES
Galt, Cal.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

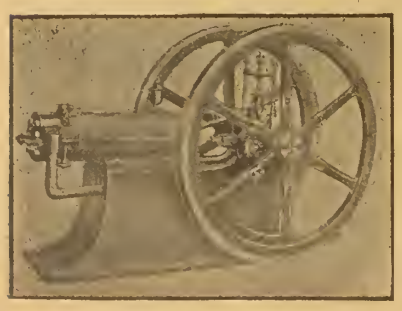
BEST, STRONGEST, SIMPLEST, MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

At Anaheim we are raising 400 inches 40 feet on 5½ gallons per hour. Can't be equalled by any other engine.

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

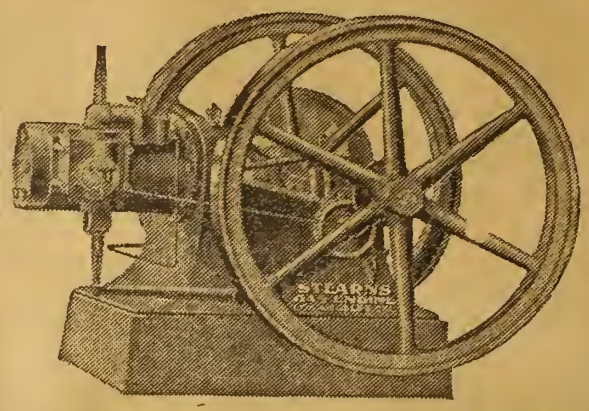
Wm. Gregory
602 North Main St. Los Angeles, Cal.

NO, THIS IS NOT AN ARTESIAN WELL, BUT

AN IRRIGATION PUMPING SYSTEM
SUPPLIED BY
S. J. SMITH MACHINERY CO.
POWER PLANTS, PUMPING MACHINERY AND WATER SUPPLY GOODS 212-214 S. Los Angeles St., Los Angeles, Cal.

When writing to Advertisers Please mention Cultivator

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use

Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

NATIONAL WOOD PIPE CO.

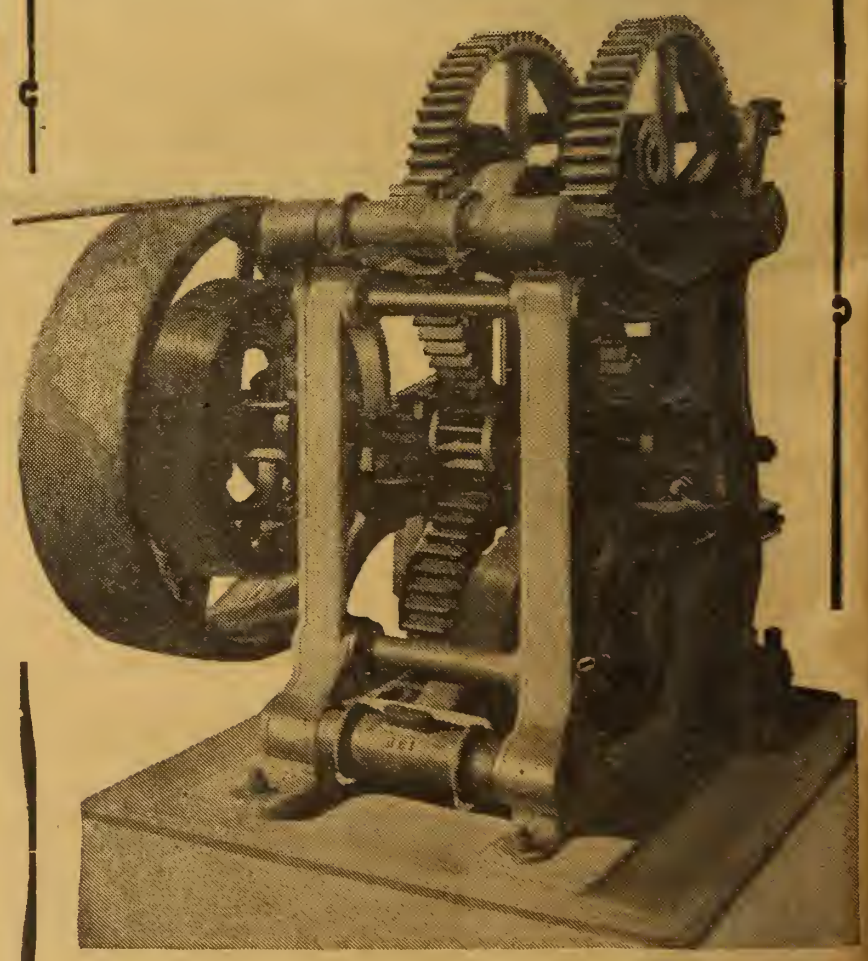
MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR **WOOD PIPE** WOODWARD PATENT MACHINE BANDED PIPE WHEELER PATENT CONTINUOUS STAVE PIPE BORED WOOD WATER PIPE

Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

The Record for the New Pomona Pumps

FOR 1905

Not a Broken Rod, Not a Plunger Pulled for Repairs



The irrigation season just closing has demonstrated fully the high merit and efficiency of the New Pomona Pumps.

Every one installed has passed through the season's run without breaking a rod or requiring the valves to be pulled for repairs, proving conclusively that the ideal beam motion used by these pumps is more than has been claimed for it.

The slow, uniform motion upward and the quick, smooth down motion handles the rods without any jerk or jar, while the long lap of the plungers in passing the dead points, keeps the water column in continuous motion upward and a steady stream flowing from the discharge pipe.

They have passed through the experimental period and are built better than ever for next year.

The ideal pump for irrigation purposes. Send for catalog.

Pomona Manufacturing Co., Builders, Pomona, Cal.

California Cultivator

LOS ANGELES SAN FRANCISCO

DECEMBER 22, 1905

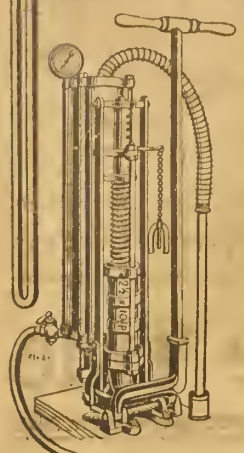
THE NIGHT BEFORE CHRISTMAS

CIRCULATION EXCEEDING 10,600

Less Work—Better Results

The first matter of importance when spraying is to secure clean fruit and healthy trees; the next thing is to have expended the least possible amount of time and money.

Bean Magic Spray Pumps



are peculiarly adapted to do these things. They are entirely different from other pumps in almost every respect, but particularly because they

Save One-third The Labor

In the Spring rests the secret. What's the use in working so hard when the same results can be accomplished with a third less labor? Save time and effort by dividing the work, doing half at each stroke of the handle instead of doing all at one stroke, and meanwhile be working against only **one-half** the pressure indicated on the gauge, **Magic** pumps are built in two sizes and have non-clogging ball valves. It is worth your while to see one in operation.

Write for our special offer, freight prepaid, and we will also send our illustrated catalogue No. 16 describing all ten sizes of hand pumps and telling what sprays to use and how to prepare them. State number of acres and kind of fruit. Write today. (Catalogue No. 18 describes Power Sprayers.)

Bean Spray Pump Co.
161 W. Santa Clara St., San Jose, Cal.

NO, THIS IS NOT AN ARTESIAN WELL, BUT

AN IRRIGATION PUMPING SYSTEM

SUPPLIED BY

S. J. SMITH MACHINERY CO.

POWER PLANTS, PUMPING MACHINERY AND WATER SUPPLY GOODS — 212-214 S. Los Angeles St., Los Angeles, Cal.

FERTILIZERS "FOR THE LANDS SAKE" A·C·W

TRADE MARK

Phones { Boyle 3 / Home 6063

Buy Your Blood and Bone at Home
A. C. W.

Blood and Bone is guaranteed free from Hoof Meal and Horn Meal. These goods are in a fine dry mechanical condition, the product of the largest packing house in Los Angeles. We contract for their yearly output, in its raw state, and get it direct without admixture or manipulation. See our agents for prices or write us direct. A. C. W. complete fertilizers are made now as they have been for the past 12 years, from the best of the best. We pride ourselves on the results obtained in large crops of good keeping fruit when our goods have been used consistently.

Agricultural Chemical Works — *Manfrs. of A. C. W. Fertilizers . . .*

901-907 MACY STREET - LOS ANGELES, CAL.

Our Book of Directions "How to Lay Out a Lawn and Keep It Green" FREE. Write for it.

ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

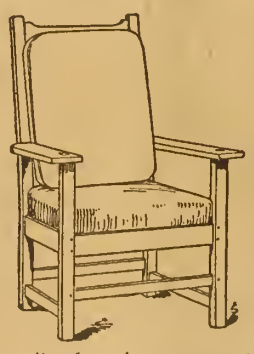
PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

"Dependable Furniture at a Fair Price."

True Mission Furniture



The Old Mission styles of furniture are the most favored and the most used now. The plain, simple lines and the peculiar finishes of the weathered oak and the dark rich mahogany are decidedly pleasing and are in strict keeping with the bungalow form of architecture which is so popular in this section of the country. There is a greater diversity of style and finish even in these special lines and just as great an opportunity exists for inferior workmanship. The mission furniture from the factory of the famous craftsman, Gustav Stickley, is acknowledged to be the finest in the country—made entirely by hand even to the smallest parts and every joint is mortised and pinned and made to fit perfectly We are agents here for this superior furniture and constantly carry a large and selected stock. All mail orders given prompt attention.

"All Goods Marked in Plain Figures."

NILES PEASE FURNITURE CO.

439-441-443 SO. SPRING ST., LOS ANGELES, CAL.

Now Is the Time to Look Over Your Old Plows

Consider them worn out. Come in and see our line of Syracuse Goods, consisting of Syracuse

Disc Plows, Solid Comfort Jr. Sulky,
Solid Comfort Gang, Steel and Wood Beam,
Walking Plows, Steel and Wood Beam Chilled Walking Plows

and the old reliable

Fosmir and Stockton Reversible Gang Plows,
the California Disc Plows, Three Gang and larger,
manufactured by us to stand and do the hardest kind of work

Do not fail to see this plow before buying, also Syracuse Steel Lever Harrows, Spring Tooth Harrows, etc. Have you seen the best Wagon on the market? You have not unless you have cast an eagle eye on the Harrison; and remember the location, which is the important part

L. A. MARTIN & SON

137-143 WILMINGTON ST., formerly Old San Pedro St., LOS ANGELES

Stockton Reversible Gang Plow

EFFECTIVE DURABLE LIGHT OF DRAFT

This is our regular Plow and Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co.
Stockton, Cal.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES

Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.

313 N. LOS ANGELES ST., LOS ANGELES, CAL.

Write for samples, prices and booklet

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

Write for catalogue

AMES PUMPS ARE STANDARD

A.T. Ames, Galt, Cal.

When writing to Advertisers Please mention Cultivator

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 25 LOS ANGELES, CAL., FRIDAY, DECEMBER 22, 1905 Subscription $1 a Year

The Annual Flow of the Yule-Time Tide

By E. A. Routhe

All Christendom stands with its face to the East on Christmas morning, and millions listen to the story of the Babe at Bethlehem. The little Child is supreme on that day. The little ones rule the hour and the "old folks" occupy a space in the background. In the unwonted freedom of the hour one sees a living picture of "joy unconfined." The ruling spirit is that of kindliness, which finds its best expression in gift tokens which go, in the main, as reminders of personal regard as well as in the observance of the sacred side of the occasion to comemorate it. In that miraculous birth was the leaven that lightened the burdens of mankind and from it sprang the cradle song of the Christian world. And after that, Calvary became the "Excelsior!" of the youth in all Christendom in the onward and upward march toward the apex of human perfection.

The Christmas of 1905 will be held in the memories of the children of this land of the blest as a day of peace as well as a day of joy. The dove and the olive branch now adorn our national pennant, and war's dread alarms have no disturbing sense in the bosom of this, our beloved republic. Therefore, because, of this peace, and the attendant prosperity, there is glee in the air. The sounds of rejoicing come from everywhere, and all the world to us seems to be in a merry mood. Business in nearly all the ordinary occupations of life is suspended for the nonce. The National Congress has taken a recess; the great manufactories have "slowed down" to give the operatives a brief respite of cheer; the schools have gone to play, and the elderly elements assemble at the festal board to do honor to "that fellow-feeling which makes us wondrous kind" and to discuss the turkey and plum pudding as well.

At eventime the churches are ablaze with lighted jet and waxen candle, and the "Gloria in Excelsis" pours in vibrant melody upon the ear with inspiring force. Now can the devout hearer and the staid, careworn man-of-the-world feel alike the joys of peace and security. From Plymouth Rock, on the storm-lashed shores of the Atlantic, where the Pilgrims sang their peans of joy to the "Peaks of Darien," where Balboa lifted up his voice in gratitude for his first view of the placid Pacific, there rises a song of cheer, of peace and of unity. But to consider critically some of the phases of our national prosperity, one should not follow the volition of mere feeling so far as to overlook anything that is not exactly in harmony with the ethical spirit of Him whose birth we celebrate in this fleeting hour, when we would "fling dull care to the winds." Reflecting just a little, it does seem the rewards have not been distributed in proportion to the individual endeavor in all cases. If the returns had been more generally distributed, so to speak, in proportion to the expended energy of those bearing the brunt in the strife there would be a greater diffusion of cheer. In corroboration of this some of the independents in productive industries can testify to that.

While Rockefeller's stocking may sag down a good deal heavier than some others, Santa Claus did not fill it. And yet poor John is in hiding from the officers of the law, in awe of a simple subpoena, a fugitive from justice, and the butt of the merry-making world. What happiness! What joy his must be today.

Picking La Marque Roses at Yule-Tide

While there are not as many independent lines of railway as there were a year ago, Gould and Harriman, as rivals, have extended their respective systems by the process of absorption; and each one waxes merry at the thought of how he outflanked the other fellow—especially when they mail to each other an "annual" with the compliments of the season.

While banking institutions have increased in number beyond all precedent in history, J. Pierpont Morgan prescribes their limitations, although as he walks or sleeps he enjoys(?) the presence of an armed body-guard—just for fun.

While Armour II, king of the meat trust, has been compelled to show his hand in the matter of rebates on shipments and to also pay a pretty little fine for violation of the law, he goes right on cheerfully fixing the market price on cattle at from $18 to $28 per head for steers that he formerly paid from $40 to $65 for before the formation of the meat trust. He may do expiation for his worst wrongs by an extra contribution to the Armour Institute as a Christmas gift, but that will not popularize him with the farmers nor condone his offense against the law of ethics or the statutes.

But this is digression. How far away one may be led, who stops to observe, if not to think. One might have mentioned the strenuous doings of Schwab and the steel trust, simply to note what a world of "richness" it is furnishing the public in its business and social operations, but lack of space and time forbids—so let it go at that.

This day of merry-making, of which so much is written, like all other mundane things, has its kaleidoscopic phases too. There are many points of view from which to contemplate it. Those in the stress of want will find little within themselves that is responsive to the spirit of the hour. The pangs of hunger, the scantiness of garb, the inadequate shelter, the humiliation of the proud spirited in poverty dispel the native warmth of the heart and dull all senses to gaiety or joy. One of the best features of this occasion is to search out those who hide in the shadows and to impress them in the most practical way possible that they are not forgotten. It is pleasing to know that much of this is done. Food, fuel and raiment are sent to the helpless poor, flowers and delicacies gladden the hearts of those in hospitals, and even those under the ban of the law, by some token, are reminded of the day. The miser and the cynic form two classes who find no merit in the day more than in any other day. They are the chumps of the world. Even money would not make them happy, for there is no real enjoyment in the possession of money unless you can use it in making others happy. Now just how it is from the standpoint of Russell Sage or Mrs. Hetty Green one may leave it to the reader to guess. Whatever estimate they make of this holiday phase of human life one can feel assured that it will not be anything like that of Helen Gould and Andrew Carnegie.

In the consideration of these and kindred thoughts which thrust themselves before one even when trying to be cheerful, in chastity one fain would quote:

"In men whom men condem as ill
We find so much of goodness still.
In whom men pronounce divine
We find so much of sin and blot,
We hesitate to draw a line
Between the two where God has not."

How many pleasant surprises are planned for the good of friends and especially to please the loved ones nearest the heart. At this period old Santa Claus goes out in guises innumerable. Youth in its glowing exuberance and buoyancy, middle age in the zenith and fullness of strength of life, old age, reposeful and austere in its mature dignity, all join in the pilgrimage—all almoners in disguise—all bearing the burden of some precious secret—in search of something to please.

Christmas Day in Southern California, under the bright sunlight, amid the waving palms and myriads of

(Continued on Page 599)

PEAR BLIGHT IN CALIFORNIA.

For a long time the cause of this disease remained a mystery, and much discussion regarding this malady, most of it of little interest at the present date, occurred in the horticultural societies and in the horticultural press. In 1878, Prof. T. J. Burrill of the University of Illinois, one of the pioneer plant pathologists of this country, discovered the bacterial nature of this disease and named the microbe which causes it. This discovery was all the more striking and fundamentally important as it was one of the first, if not the first bacterial disease of plants to be discovered. Since the initial discovery of the bacterial nature of the disease, investigations of its nature and the life history of its microbe have proceeded along the lines of modern bacteriological methods.

The writer was assigned to the task of thoroughly investigating this disease in the spring of 1889, and several years were devoted almost exclusively to this work. With the points gained by other investigators, and aided by the experience of very many practical orchardists in almost every state in the Union, the result is a very complete knowledge of the disease, and, as complete knowledge about any disease and its parasite usually results in some national method of control, I am enabled at the present time to lay down a practical and feasible method of controlling, if not of completely wiping out this disease in the pear orchards.

* * *

Host Plants.—The disease is usually most serious on the pear. It attacks the apple, however, to a very serious extent, sometimes disastrously. The quince, the wild crab-apple, the various species of hawthorn, the service berry, the mountain ash, and other related fruits are more or less subject to its attacks. The loquat, which is a relative of the pome fruits, is a somewhat peculiar host for this disease. Fortunately, California has scarcely any wild hawthorn or crab-apple, and there are usually no thickets of those related fruits in the vicinity of the orchards, so that in eradication work the orchard alone, or perhaps the ornamental grounds, in addition, are all that need attention.

* * *

External Appearance.—The blight usually first attracts attention in the spring of the year, a month or so after the blossoming period. It is then found that the flower clusters are shriveling and dying. Perhaps if examination had been made very carefully the blighting blossoms may have been noticed for some weeks previous. About this time the twigs are also found to be dying. In some cases, the new shoots are seen to be attacked at the tip, and the disease is running downward, killing the tender twigs completely and running down on the bark of the twigs and branches.

* * *

Factors Which Determine the Spread.—These factors may be divided, more or less completely, into two sets—those which govern infection, and those which determine the spread of the blight in the tree after infection.

* * *

Factors Governing Infection.—The first factor is the presence of the bacillus. The pear blight germ must be present in the orchard or must be carried in there during the season in order to have the blight. No matter how favorable the conditions may be, unless the germ is there, the disease cannot develop. The immunity of the California pear orchards up to recent years, of course, is attributable to the fact that the germs were not here. Second—the number of insect visitors. We have pointed out that insects carry the blight about. The honey-bee is one of the most active in carrying the blight on the blossoms. Other insects visit the pear and apple blossoms and carry the blight very widely, sometimes exceeding in importance the honey-bee. The presence of some certain species of insect, as already suggested, has been the means of introducing the blight into the twigs and branches or bodies of the trees. Not only must the insects be present, and the germs there for them to carry, but the weather conditions must be favorable for the activity of the insects and to bring the tree into the proper condition for infection. However, visiting insects usually like sunny weather, especially sunny weather following a moist season, which allows many kinds to hatch out or develop from the pupa.

PROF. M. B. WAITE.

PRUNING RASPBERRIES.

The canes of the red raspberry are biennial; that is, the fruit is produced on the wood that is two years old. Shoots of the canes grow from the roots the first year and fruit is borne on them the second year. By heading back the young shoots in the summer, more lateral branches will be produced on which fruit is borne. The root is perennial and if the raspberry plant is properly cultivated and pruned, it can be made to live indefinitely and bear well.

In pruning pluck out all the dead canes, cutting them close to the ground. Then thin out the remaining canes to about eight or twelve inches apart. Head back the young shoots to an average height of from two to three feet, depending upon the variety and growth of the plants. A good hedge shears or pruning shears are good tools to use in pruning raspberries.

The black raspberries, or black cap raspberry, has biennial shoots and sends out canes from a perennial root. However, the black cap does not increase from suckers, but grows from a hill plant and propagates by rooting at the tips of the branches. In order to make the plant stout and thrifty, summer pruning should be practiced. This consists in cutting back the young canes when they are 1½ to 2 feet in height. If this is adhered to ,strong lateral branches will be thrown out which will make strong, vigorous canes. All affected canes should be burned. When pruning leave from 3 to 5 canes to a hill. Head back the lateral branches from 12 to 18 inches in length.

A JOKE ON THE U. S.

"Say, I gotter good joke on the governmcnt! I been aginst ther administration fer four years, yet they still air sendin' me seeds."

TREES!

80,000 Apple Trees in 42 Varieties. Extra well rooted. Clean. Grafted on whole roots and free from all pests. Also an extra fine stock of Prunes, Pears, Plums and Walnuts. Write for price list. **A. F. Scheidecker,** Proprietor Pleasant View Nursery, **Sepastopol, Cal.**

THE VERNON NURSERY

4524 Central Avenue, Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL. Prop.

The Johnson & Musser Co.

Los Angeles, Cal.

SEED CATALOGUE Now ready. Write for it.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
— ARE RELIABLE —
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

GEO. B. WARNER'S
Orange County Nurseries

Choice line of Orange Trees, consisting of Valencia Late, Wash. Navel, Navelencia, King Tangerine. Eureka Lemon, Budded Loquat, Blue Gums, Red and Sugar Gums, large stock Soft Shell Walnut trees 3 years old, Grafted Walnuts, Palms, Shrubbery, and general line of deciduous fruit trees. Write for price list.

Est. 1889. SANTA ANA, CAL.

We have pleased our customers for 16 years

WRITE THE
FRESNO NURSERY CO.
Inc. (Capital $50,000.00)
BEFORE PLACING YOUR ORDERS FOR
GRAPE VINES

Large Stock of Muscats, Thompson Seedless, Malaga, Emperor, Cornichon, Tokay, Lenoir, Black Morocco, and Wine Varieties.

WALNUT TREES FIG TREES
FRUIT TREES

Catalogue mailed FREE. Address
THE FRESNO NURSERY CO., Inc.
BOX 42, FRESNO, CAL.

BEST TREE WASH **GREENBANK** 98% Powdered Caustic Soda and Pure Potash.

Copy of Analysis of competitive brand labelled and sold as "Powdered 98% Caustic Soda: Sodium Hydrate, 75.60%; Sodium Oxid, 58.59%. Signed: I. M. Curtis & Son, Analytical Chemists.

T. W. JACKSON & CO., 123 California Street, SAN FRANCISCO

STEWART BROTHERS NURSERY
The Oldest and Best Established Nursery in Southern California

The largest and healthiest stock of all kinds of Deciduous Fruit Trees in Southern California, from the famous Oregon Nursery Co. Nothing equal in size or healthy growth, with unsurpassed wealth of roots Many thousands Soft Shell Santa Barbara Walnuts grown by us and guaranteed to be of superior quality—(see sample nuts at the office). Citrus trees of all kinds and varieties. Ornamental Trees, Palms, and everything in the tree line desired for Spring planting. Call on

712 S. SPRING ST. LOS ANGELES, CAL.

WALNUT TREES

From carefully hand-selected seed. Postal gets prices.

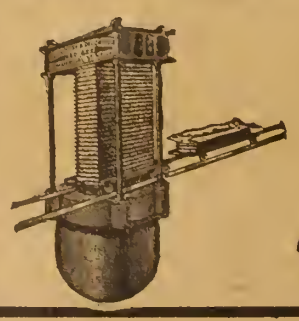
A. A. Mills - - Anaheim, Cal.

THE ANAHEIM EVERGREEN NURSERIES
Tim Carroll, Prop.
Anaheim, Orange County, California

The Oldest Nursery in Southern California
Established 1868 by the Present Owner.

Palms, Pines, Acacias, Cypress, Camphors, Eucalyptus, Guavas, Budded Loquats and all kinds of Ornamental Trees. Be sure and visit the Nurseries. A cordial invitation to all. Nurseries, 200 yards west of Loara Station, S. P. R. R. Our fine Illustrated Catalogue free. Write for it.

WINE AND OIL MACHINERY
A SPECIALTY



Presses for All Purposes.
Complete Plants Fitted Out.

TOULOUSE & DELORIEUX
618 Commercial St. San Francisco
Catalogue Upon Application

THE ADDITION OF HUMUS TO SOILS.

As the humus has such a decided influence over the condition of plant food in the soil, the addition of it to a soil more or less depleted, or naturally deficient, must always be kept in mind, in the consideration of any system of fertilization.

While the time-honored method of supplying humus in the shape of stable manure is still not to be neglected, yet much of its effectiveness is lost from the presence of so large a quantity of straw, which forms humus quite slowly. Care should always be taken to save as much of the manure as possible, but the more modern way of utilizing certain plants as nitrogen catchers, and humus formers, thus improving the moisture and general physical condition of the soil, is by far the better method for the horticulturist, who generally has a limited amount of stock from which to derive manure.

Humus secured in this manner is both superior to and cheaper than that from animal manures. The plants generally most available for this purpose are peas, vetches, lupines, or any of the clovers. In California the selection should be made of one which makes a fairly rapid winter growth, so there will be a considerable mass of succulent matter to turn under in the early spring. The particular value of the humus obtained from this source lies in the fact that the material is green and succulent, and easily decomposes, and that this class of plants is rich in nitrogen, thus producing a more lasting effect than the humus obtained from stable manure. These plants, thus distributing the organic root surface, which extends much deeper into the soil than most other plants, thus distributing the organic matter to greater depth than other plants. They are at the same time larger users of lime, phosphoric acid, and potash than the other classes of plants, and consequently leave a larger proportion of these ingredients in the material distributed in a fairly available form in the soil.

Leguminous crops are also great users of nitrogen. They not only utilize all the soluble nitrogen within their reach, but also avail themselves of the nitrogen of the air, through the medium of a system of bacteria which they harbor upon their roots, and which serve to manufacture nitrogenous food to supply their host plant. The necessity for their using such large quantities arises, at least in part, from the fact that they have to furnish nitrogen in considerable quantities for the successful operation of these bacteria.

For most general application, the Canadian Field Pea has given the best results as a green manure crop in California. The handling of a pea crop, outside of the seed, does not cost more than the handling of the soil without it, and there is added to the soil, the fertilizer with which they have been fed, in addition to the nitrogen which the crop has been able to gather from the air, and the entire amount then becomes the plant food for the main crop grown upon the land.

Right at this point it must be plainly understood that a pea crop brings neither potash nor phosphoric acid to the orchard, as it obtains all its supply from the soil on which it grows. Further, unless these two elements are present in the soil in an available condition, the pea cannot take up and elaborate the nitrogen of the atmosphere. We should so feed the pea crop then, with potash and phosphoric acid, that it can make the greatest possible use of the atmospheric nitrogen. The fact that we make use of peas as a green manure makes it really the more necessary that we use additional amounts of the two mineral fertilizers, potash and phosphoric acid. The effect of these is not lost through the pea crop, but they enable it to do more work in the elaboration of the nitrogen, and at the same time the potash is saved for the use of the fruit crop of the succeeding year, since by turning under the peas, we leave in the soil all the ingredients which the crop has required for its growth.

Phosphates and potash should always be applied before the pea seed is planted, whether the planting is done broadcast or in drills. The fertilizer may be either sown broadcast or, if the seed is to be drilled in, strewn along where the rows are to be, and subsequently mixed with the soil. A fair application would be 300 pounds acid phosphates, and 100 pounds muriate or sulphate of potash per acre. In some cases, on account of the lack of soluble nitrogen in the original soil, the plant may appear sickly and yellow. When this condition is observed, the addition of about 75 pounds of nitrate of soda per acre may be used as a top dressing, but to avoid injury, it should be first mixed with four or five times its bulk of dry earth, but as a rule this is unnecessary, and only the potash and phosphates need be supplied.

GEO. WRIGHT.

BLACK SCALE PARASITE.

During the summer of 1898, I found on trees in San Bernardino County some black scale (Lecanium oleae), that were evidently diseased.

I brought samples of these scales to our laboratory in Los Angeles, where cultures of the fungus, which was apparently getting in its deadly work, were made. Subsequently many cultures of this fungus were made and were distributed widely through our scale infested districts. In some districts the work was quite effective that season. Mr. A. B. Smith of San Dimas, had his ranch cleaned up by this fungus. In other places the disease seemed to make little headway.

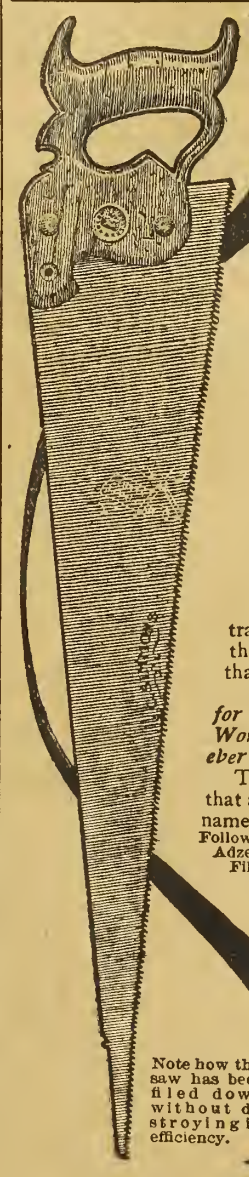
Believing that a disease is by far the cheapest method of getting rid of our scale pests, this department has persistently continued to make cultures annually, and has distributed them widely through Southern California. These have thrived, more or less indifferent, for a short time and then disappeared. This year the results were quite different, and I find that this fungus disease has been doing effective destruction in many localities, and it would appear to have become acclimated and I trust has come to stay, although it seems to have been "winter killed," for several successive years.

The fungus is grown in Petrie Dishes, i. e., cultures are made of it on pieces of sterilized bread about 2 inches in diameter. When the cultures are made they can be kept a long time, under proper conditions, ready at any desired time for application. At the proper time three of them are mixed with a barrel of water at a temperature of about 70 degrees Fahrenheit. Such a barrel containing 45 gallons of water is enough to spray 1600 trees. I have done this by merely spraying, through an ordinary hand syringe, say one pint of the mixture on a tree. Every fifth tree is enough to put the spray upon.

On one tree at least wet a limb infected with the scale with the mixture and wrap with piece of cloth also wet with the mixture (a cloth about 2 inches wide and 3 feet long, will answer). This cloth should be kept moist for a week, thus enabling the spores to get a start upon its host. If the fungus gets a start on any tree it will more than likely spread, not only over the orchard, but throughout the neighborhood.

It is evidently desirable that tests should be made as extensively as possible of this method of destroying the black scale, and the work will be continued by this department.

S. M. WOODBRIDGE, Ph. D.



Saw Service

A good example of the remarkable service given by Keen Kutter Tools is shown in the Keen Kutter Hand Saw illustrated here. This saw was used for *twelve years* by a carpenter, who pronounced it the best saw he had ever used in thirty years experience; and as perfectly satisfactory in *every respect.*

And every other tool in the Keen Kutter line is as good a tool of its kind as Keen Kutter Hand Saws

The long life of tools bearing the

KEEN KUTTER

trade mark is not chance or accident. It is due to the fact that nothing is spared to make Keen Kutter Tools the best that brains, money and skill can produce.

The Keen Kutter Line has been Standard of America for 36 years and was awarded the Grand Prize at the World's Fair, St. Louis, being the only complete line of tools ever to receive a reward at a great exposition.

Think what it means to you to be able to buy the best tools that are made, of every kind, simply by remembering the one name—Keen Kutter.

Following are some of the various kinds of Keen Kutter Tools: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Eye Hoes, Trowels, Pruning Shears, Tinners' Snips, Scissors, Shears, Hair Clippers, Horse Shears, Razors, etc., and Knives of all kinds.

If your dealer does not keep Keen Kutter Tools, write us and learn where to get them.

E.C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK REG.

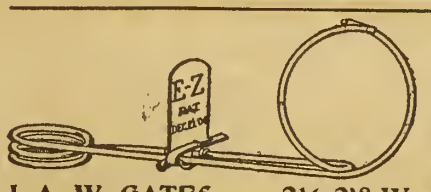
Every Keen Kutter Tool is sold under this Mark and Motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."

Trade Mark Registered.

SIMMONS HARDWARE CO.,
St. Louis, U. S. A., 298 Broadway, New York.
Send for Tool Booklet.

Note how this saw has been filed down without destroying its efficiency.



Ask Your Dealer for the E-Z Gopher Trap

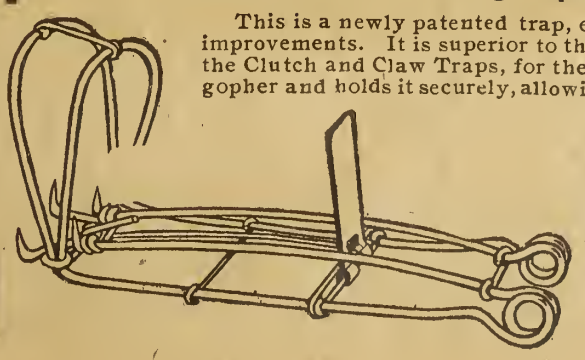
If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

TRAPPED TO STAY TRAPPED

The trouble with most gopher traps is that they permit the rodent to escape after the trap has been sprung. This not only makes the old style traps worthless, but prevents the recapture of the gopher. The only sure means of destroying gophers is with the

Improved C. V. 2-Ring Gopher Trap



This is a newly patented trap, embodying all the latest improvements. It is superior to the Single ring, as well as the Clutch and Claw Traps, for the double ring disables the gopher and holds it securely, allowing no chance for escape.

See that you get the genuine Improved C. V. 2-Ring. Sold everywhere for 25c; or if your dealer does not have them, send us his name and 25c for sample trap or $2.50 for a dozen, which we will forward postpaid.

Falls Manufacturing Co.
14 Drumm St., San Francisco

TREES

ROEDING TRUE TREES FRESNO, CAL.

True to Name

It is of the utmost importance that young trees, shrubs and vines for planting be true to name. They must also be well rooted and properly prepared for shipping and planting. Such are the trees from our nurseries.

We have four separate nurseries, comprising over eleven hundred acres, in different sections of the country, each having its peculiar soil best suited to the special requirements of different trees, shrubs and vines for their perfect development. It is a costly method for us to pursue, but it enables us to grow the very best on the market.

CALIMYRNA FIGS

Over fourteen years of careful experimenting with the growth of the Smyrna fig, or fig of commence, in this country were requlred before we could say that we had been entirely successful in propagating this valuable fig, and for the past five years we have been growing this fig in its perfection, drying, packing and marketing it.

CALIMYRNA R FRESNO

There are several varieties of the Smyrna fig, but with our varied experience in this line we feel warranted in recommending one, the Calimyrna, as the most profitable and best for all commercial purposes. We are able to supply almost any desired quantity of these superior trees.

We protect the Calimyrna Fig with the seal shown herewith, which is attached to each bundle of ten trees.

We make mention of our superior stock of

PEACHES, PLUMS,
PRUNES, PEARS,
APPLES, APRICOTS,
CHERRIES, OLIVES,
NECTARINES, ETC.

These trees are all grown in our nursery plant, No. 3, which has a rich river bottom soil, permitting the most perfect rooting. Our

ORANGES,
LEMONS,
POMELOS,
LIMES,
CITRON

And all of our citrus fruit trees are grown in our nursery at Exeter, which has a deep, rich, black loam and is particularly suited to this particular line. All of the standard varieties will be found in our stock of strictly first-class trees.

GRAPE VINES

As we are the largest growers on the coast of the best varieties of raisin, wine and table grapes and also make a specialty of vines grafted on phylloxera resistant roots, we are in a position to fill your orders most satisfactorily.

CATALOGUE FREE

Our catalogue, in either English or Spanish, is profusely illustrated and gives a good idea of the immensity of our stock. We mail it free to any address on receipt of 5c postage. Price list mailed on application.

BOOK YOUR ORDERS NOW

If you are contemplating doing any planting in the future it would be well for you to place your order as early as possible. We will book your order now and ship your stock when it is desired.

Paid-Up Capital, $200,000.00.

Fancher Creek Nurseries

(INCORPORATED)

GEO. C. ROEDING, President and Manager

FRESNO, CALIFORNIA

California Horticulturally

By John Isaac, Sacramento, Cal.

VALUE OF OUR FRUIT OUTPUT.

In his address before the late Fruit Growers' convention at Santa Rosa, Governor Pardee said:

"Our expert estimates that the real value of California's fruit and fruit products is $50,000,000 or a sum equal to the combined values of our mineral products and our cereals, whilst another very competent judge places the figure at no less than $80,000,000."

We are inclined to the belief that both of these estimates may be correct, if they apply to fruit and products, which they probably do, as they are used for illustrating the value of the orchard and vineyard industry to our state. The products of citrus, fresh, canned and dried fruits, including raisins and prunes, will undoubtedly reach the former figure, while, if we add to the fruit products, wine, brandy and other manufactures of the vineyard and the orchard, the larger figure will undoubtedly be reached.

* * *

Increasing Importance of the Fruit Growers' Conventions.—The thirty-first Fruit Grower's convention, held at Santa Rosa, the first week in December, was one of the best attended and most interesting of any ever held. We have seen a larger attendance, but this only in more populous centers and within reach of a larger number of orchardists, but, all conditions considered, the meeting at Santa Rosa was the best attended and the most interesting and valuable ever held. It is pleasing to note the increasing interest being taken in these conventions and the wider scope of the programmes. Heretofore methods of production—planting, pruning, cultivating, etc.—have been the chief topics considered, but as we have become better and better versed in these operations, they have gradually ceased to be the most important, and better methods of packing and marketing have taken their place, while many of the papers are of a purely scientific character, and these are listened to and appreciated by the attendants. There is a very evident improvement in the tone of these fruit growers' conventions, indicative of deeper research and a broader knowledge of science as it relates to the industry considered.

* * *

California an Apple State.—California has awakened to find that she is an apple growing state, and it is somewhat of a surprise to her. Ever since we can remember in California we have been told that it was no use trying to grow apples here because they would not do well. No, California might grow other fruits but not apples. When asked why, we were gravely informed that everybody said so, and that settled it. But we are growing apples, more and more each passing year, and each season sees a greatly increased acreage of new apple orchards set out, until it begins to look as though the state which couldn't grow apples will yet become one of the great apple producers of the Union. The crop of the Pajaro section alone, only one, although the most important apple section of the state, this year passes the 3,000 carload mark, and all things favorable this will reach 3,500 for the coming season. Beside this there are large quantities raised in the Lompoc section, in Mendocino and Sonoma counties, besides large quantities through the mountain counties. Altogether there is now probably between 6,000 and 7,000 carloads of apples produced in this state annually. This branch of fruit growing is practically the growth of a very few years, for while apples have been grown to some extent in our state from the earliest period, long before the American occupation, it is only of late that it has been thought that they could ever be a profitable crop, and even now the idea that we cannot grow apples is firmly grounded in the minds of some of the old inhabitants, and the statements here given will come as a surprise to them. Apples can be successfully grown in two great sections of California; in the counties on the Pacific ocean, and in the higher mountain valleys. In the coast counties the proximity of the sea moderates the temperature, there is no excessive heat and the apple has found there ideal conditions of climate. In the mountains we have almost an Eastern climate—frost, snow and long, cold winters, very favorable to the hardier apple, and the two sections produce two different classes of fruit, the light colored varieties giving better results on the coast, while the red varieties appear to do better in the mountains. There is yet vast areas of good apple land in both of these sections and a good chance for this industry yet to equal if it does not rival citrus fruit in our state.

* * *

Rain Needed in the North.—The northern portion of the state is very badly in need of rain again. So far there has been but one rain storm worthy of the name, and even that was a very light one, and was followed by several days of north winds which dried up what little moisture fell. We have now arrived at Christmas time and so far have not had sufficient rain to start the plows. Feed is very poor and stock in many sections is beginning to suffer. There is still ample time to make good crops and to have a good season, but for all that our farmers are becoming anxious.

* * *

No Organizations of Dried Fruit Men.—The effort to organize the dried fruit men of the state has resulted in failure, and it is evident that the individual growers are rather inclined to go it alone than to pool their interests and work together co-operatively. In view of the unsettled condition of the prune market and the ruinously low prices prevailing for that fruit, a committee was appointed at the San Jose Fruit Growers' convention for the purpose of taking steps to organize the prune growers into a co-operative body, for the purpose of marketing their products, and it was fondly hoped that, profiting by the failures of the past, some working system could be evolved and successfully inaugurated. To this end A. R. Sprague, chairman of the committee, laid two propositions before the growers, one being a profit-sharing plan, by which capital was to be induced to enter into combination, in order to swing the crop; the other was a purely co-operative proposition, and the growers were asked to express their choice. Nearly 4,000 postal cards, all prepaid, were sent out to prune men in the state, and all they had to do was to put a cross against the preferred plan. Out of all this mass of cards, but 210 were returned. It was a rather remarkable exhibition of apathy on the part of a class of fruit growers who were suffering more than any other class, but while to be regretted, was not altogether unexpected. Several efforts have been made to bring the prune growers together, and in every case there has been failure followed by loss on the part of those who were most faithful to the principle of co-operation. So, in view of the indifference on the part of those most concerned, the organization of the prune growers has been abandoned until the need is greater or the opportunity is more propitious.

"Al" or Enhance Strawberry Plants for Sale

First-Class Stock

D. F. Reichard - Irwindale, Cal.

Armstrong Nurseries

The Sign of Quality

Is in evidence in all the nursery stock graphically described in our new catalog, which tells of the best varieties of Fruit Trees, Grape Vines, Field-Grown Roses, Shrubs and Plants. Avoid the middleman and dealer; buy direct from the producer. A copy of this booklet will be sent to you for a two-cent stamp.

Armstrong Nurseries, Box 14, Ontario, Cal

When you are About to Purchase a New

WAGON, BUGGY, HARNESS or OTHER FARM or DAIRY IMPLEMENT

Always bear in mind that we have what you want and of the very best quality at the right price.

DON'T THINK

that you save any money in buying an inferior article. A poor wagon will cost nearly as much as a good one and the repairs necessary to keep it in good running order are very expensive.

BUY THE BEST

and you will be better satisfied and have longer wear at less expense than in the purchase of a cheap, thrown-together trap. We carry only such goods as we can recommend to be of first-class construction.

OUR POLICY

of giving full value has been adhered to since beginning business nineteen years ago. We have constantly increased our stock and now have a complete line to offer our customers.

CALL AND SEE US

when you are in Los Angeles. We shall be glad to show you the class of goods we carry. Our ad in the Cultivator of Nov. 24, page 485, will give you a general idea of what we have.

NEWELL MATHEWS CO.,

200-204 No. Los Angeles St.

Los Angeles, California

CITRUS FRUITS

By C. A. Day. Pasadena

SPRAYING CITRUS TREES.

I read with interest Mr. James Mills' letter giving his expericnce in spraying citrus trees with distillate mechanical mixture. Mr. Mills in his letter makes the following important points:

Condition of scale at time of spraying. Testing of the distillate, turpentine and water for the mixture. Condition of trees and irrigation before spraying. Contract work. Expert in charge of machinery and the spraying.

These points are well taken but it will be difficult for the average grower to procure an expert for the machinery and spraying, and where the grower or a combination of growers wish to do their own work, it will be necessary for them to learn the details of the work as done by an expert. For this reason Mr. Mills' letter is lacking in an important part, the working of the machinery and the application of the spray. I have no doubt but that Mr. Mills will be glad to furnish the readers of the Cultivator the information desired.

While I am not in the spraying business, I have had a great deal to do with spraying and the inspection of sprayed orchards, and am aware that a great deal of the spraying, in fact a great majority of it, is not up to the mark set by Mr. Mills. I believe some important points in the details of the work are overlooked. One of these is the pressure and the nozzle.

High pressure and a nozzle throwing a fine spray, breaks up the mixture of distillate and water. This thoroughly mixes the oil and water, giving to all parts of the wood and foliage an equal strength of the distillate, which not only prevents injury to foliage but by the equal distribution of the oil is more effective on the scale. It is a well known fact that the oil and water separates quickly after the agitation for mixing ceases. It is therefore reasonable to expect some separation of the ingredients of the mixture in its passage through the hose and a coarse nozzle.

The high pressure and a fine nozzle breaks up the mixture into fine particles as it is thrown upon the tree. If the above reasoning is correct, the engine should be at all times in good working condition and able to maintain the required pressure. There have been instances where the contract sprayer carries a sample nozzle to show what is being used, but the nozzle in use has been tampered with and throws a coarser spray. Another important thing to be considered, when an orchard of thick topped orange trees are to be sprayed, is the removal of the dead wood and of all useless wood beyond that necessary for fruit bearing. A close topped and untrimmed tree will not admit the equal wetting of all parts of the wood, and we all know that a large part of the black scale on the wood is located on the under side of the branches at the outside of the tree with a close topped tree and the branches laying on top of one another there is not a good opportunity to reach all of the scale. I believe the spray should be thrown directly upon the scale. Carelessness of the sprayer often leaves portions of the tree untouched or not thoroughly wet.

Many of our growers who buy and operate spraying machines, secure a workman who has formerly worked for a contract sprayer, and as a result the work is no better than the average contract work and sometimes not as good. In fact, much of the work done by growers themselves is not equal to the work of the commercial sprayer.

The condition of black scale and its irregular hatch makes spraying in coast portions much more difficult than at interior points, as at Riverside, for instance.

Young, vigorous orange trees in coast sections, very frequently have the black scale hatching from early spring, through the summer, and would require more than one spraying. The first spraying should be timed when the young scale are not too far advanced to be killed. The fall spraying, from this year's observation, should be given in the month of September as the scutellista at that time are numerous enough to parasite all the old unhatched scale.

As to possible injury to trees, a tree highly fertilized and under intensive culture, will be less liable to injury than one in a debilitated and run-down condition. The strong, vigorous tree is better able to withstand the possible injury from poor oil.

FLORIDA ORANGES.

Judging from the following "spasm" which appeared in the editorial columns of the last issue of The Western Fruit Grower, St. Joseph, Mo., the editor is in a condition to appreciate the luscious Navel oranges California is now sending East:

"For years Northern markets had no oranges from Florida, for the trees down there had been killed by a severe winter. During this interval we were told of the good, sweet oranges which formerly came from Florida, until it was with great joy we received the announcement a year or two ago that Florida was to be a factor in the orange market again. But, alas! Florida oranges are not living up to their reputation, for the reason that growers are shipping them before they are ripe. Florida oranges have been on the markets for several weeks, but it is safe to say that the average person who buys them, after he learns where they are from, resolves that henceforth he will pass the Florida fruit and wait for oranges from California. The fruit has been green and very sour. Florida growers should see that this condition of affairs does not continue. They should not allow their fruit to be shipped before it is ripe, else they will disgust the consumers with their fruit. It will not do to say the consumer ought to know enough not to buy green fruit—the fact is simply that he knows the Florida fruit is bad, and the result is that the growers are apt to 'kill the goose that lays the golden egg.'"

In the midst of his chuckling over the apparent superiority of the California orange now in the market our grower should see in this comment a warning against the shipment of green fruit from any section.

The Rural Press: Lemon growing near Fair Oaks is becoming one of the leading industries. Many orchards are now coming into bearing. Owing to the fact that the lemon tree thrives on less water and poorer soil than the orange, there are many localities where a special advantage is gained in planting to lemons.

A VALUABLE INNOVATION.

The Citrus Fruit Association of Ontario has adopted a system whereby careless fruit pickers may be held up and possibly lose their job in their not exercising more care in the gathering and handling of oranges and lemons.

The system is as follows: Every picker will have his individual number, and every time he picks a box he will put into that box of fruit a ticket bearing his number. When the fruit is delivered at the packing house the inspector examines it, and if he finds any fruit with too long stems, or damaged by the clippers or otherwise marred by the picker, he takes the ticket, gives it to the grower delivering the fruit, who having the number is not long locating the clumsy picker.

This happy scheme will be good news to many growers who have lost considerable through the carelessness of some pickers, and who seldom have been able to locate the party to whom the blame should attach.

The scheme will no doubt prove such a good one, in that it will put more dollars in the growers pockets, that all packing houses will adopt the same system.

Santa Paula has a new bank. Capital $50,000.

San Luis Obispo County Lands. Best and Cheapest in the State. Rainfall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

10 per cent gross on every car can be saved by growers using the new patent Cyclone Car Cooler (Famous Intermittent Vacuum Method). Address today Chas. F. Edson, Manager Citrus Cooling Company, 950 West 20th Street, Los Angeles, Cal.

CITRUS SEED BED STOCK
F. H DISBROW NURSERIES
PHONE 949 R. D., PASADENA, CAL.

VALENCIA LATE
And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Glendora, Riverside or Redlands, as desired. Address
Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Citrus Trees
The Philippi Nurseries
Rocklin, Cal.

Stop! Listen!
Buy Orange Trees that are true to name. I do not own the largest nursery in the world, but can produce the best trees in the world, and can beat the world on prices, according to quality.
H. M. Cole Third House S. Hill Ave. Pasadena, California
Sunset Phone Main 450

Citrus Trees
In all the standard varieties of oranges and lemons, pomelos and limes, are our exclusive business, hence we stand ready to give you a superior nursery tree at a low price, quality considered. It will be a pleasure to correspond with you if contemplating planting an orange or lemon grove. In the meantime, may we send you our booklet on Citrus Culture?
San Dimas Citrus Nurseries
San Dimas, Cal.

ORANGE TREES
Oldest Established Citrus Nursery in California, at Alhambra, Los Angeles County
Late Valencia and Washington Navels, Lisbon and Eureka Lemons. Guaranteed true to name. No better trees in this State. Lowest market price. Three-year buds, four-year roots. Horticultural Commissioner's certificate. Order early, as good trees are scarce. Inspection invited.
E. G. Wood, Owner, at Nursery or Room 732 Huntington Building, Los Angeles, Cal.

DRIED GROUND TANKAGE
THE BEST AND MOST ECONOMICAL FERTILIZER
ANALYSIS { 10½ per cent Ammonia / 18 per cent Bone Phosphate
WRITE US FOR PRICES AND PARTICULARS
Western Meat Company - - San Francisco

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

OLD-FASHIONED FLOWERS.

They aint no style about 'em,
And they're sort of pale and faded;
Yet the doorway here, without 'em,
Would be lonesomer, and shaded
With a good deal blacker shadder
Than the Mornin'-glory makes,
And the sunshine would look sadder,
For their good old-fashioned sakes.
—RILEY.

BEAUTIFY THE BACK YARD.

At this season of the year, when everybody about the farm is busy, it seems almost impossible for any one to find time to plant flowers and vines to beautify the back yard, but with all that, don't neglect this one thing, for in the hot summer days, when the worst of the hard work is over and you have a chance to sit down for a short time in the heat of the day, you will miss a nice, cool, inviting spot, where the vines are covering all the bare and ugly sheds and the flowers are in bloom.

The front yard no doubt is already planted, but don't on that account neglect the back yard. There is, perhaps, an old fence, or tree-stump, or even an old wood-shed, that will be a good spot for some vines, or the old-fashioned but brilliantly colored flowers —hollyhocks, petunias, four o'clock, etc.

Don't spend all your time on beautifying your front yard, but give the back yard some attention—you will not regret it.

FARMER ORFF.

NATURE STUDY IN RURAL SCHOOLS.

There is no doubt of the necessity for work of this kind with the children. The love or antipathy of the farm is engendered at a very early age in the minds of the young. This has been demonstrated when we have farms and who still desire to do so to raise their hands, and we almost uniformally find that the number who desire to live on farms is far less than those who actually live on them. With these childern, ranging from six to fifteen years of age, the question of pecuniary profits upon the farm has appealed very little, but they are influenced directly by the environments under which they are living. These environments must be improved; and if they are, there is every reason to expect that children will love the country better than the city. We have thought, therefore, that it is eminently worth the while to instill the love of nature and the knowledge of a multitude of living things in the minds of the children; and by so doing we are fully convinced that we shall also be spreading the very same knowledge and impulse to the parents of these children. In fact, all are fully convinced that the fundamental method in improving the agricultural status is to begin with genuine and attractive nature-education in rural schools. As soon as a genuine interest in these matters is awakened in the children and teachers, school gardens, cabinets of plants, insects and minerals and other enterprises will cluster about the school-center, and the influence thereof will spread throughout the community.

RURAL IMPROVEMENT WORK.

The higher the culture the more harmony and beauty demanded by all the senses, and we are well into the century which will see the beautifying of country homes and villages with flowers brought to marvelous perfection. Flowers are within the reach of the poorest. A rich person may buy beautiful objects of art and hide them away in his house, but his flowers must grow in the sunshine where we can all see them. They grow as finely for the cottage as the mansion. Nothing tells more quickly of refinement within the home than flowers outside it.

Village improvement work is one of the most beautiful thoughts of the day, and there is no end to the work it opens up. In small towns it may well take the place of the board of trade of the cities. Let us hope the people all along the line are alive to its advantages. For, after all, it lies with the people themselves to say to what extent this improvement work shall go. In the midst of all a few farmers or villagers may decline to join the work, and thus become an eyesore to the tireless little company of workers who have done so much for them. It will also cause thousands of visitors to wonder what makes those homes and farms less prosperous than others.

The go-ahead, progressive part of the population of towns will withdraw one by one, leaving the lazy ones to their weedy streets and tumble-down fences, and the progressive farmers will welcome purchasers for the farms of their less thrifty neighbors. Will it pay you to allow your property to deteriorate for the lack of a little exertion on your part? Not in this age.

MAKE NATURAL FLOWER BEDS

One fault with our flower-growing is the flower-bed. Now, nature has no time to make flower-beds; she is busy growing flowers. And, then, if she were given to flower-beds, the whole effect would be lost, for she could no longer be luxurious and wanton, and if a flower were picked her whole scheme might be upset. Imagine a geranium-bed or a coleus-bed, with its wonderful "design," set out into a wood or in a free and open landscape! Even the birds would laugh at it!

We should grow flowers when we make a flower garden. Have enough of them to make it worth the effort. We sympathize with the man who likes sunflowers. There is enough of them to be worth looking at. They fill the eye. Now show this man ten square feet of pinks, or asters, or daisies, all growing free and easy, and he will tell you that he likes them. All this has a particular application to the farmer. He grows potatoes and buckwheat and weeds by the acre; two or three unhappy pinks or geraniums are not enough to make an impression.

FLOWERS BRIGHTEN FARM LIFE.

During the past few years the best thoughts of many able men and women have been given to the condition of the farmer and the status of agriculture. Many movements looking to the betterment of rural affairs are now in progress. It is probable that every one of them is productive of permanently good results; and the combined efforts must be most beneficent. However, the pecuniary side of the agricultural question has been too greatly emphasized in these schemes. It is, of course, incontrovertible that the greatest single problem is that of the earning power of the farm; but it is not nine-tenths of the question, as one might conclude from current agricultural discussions.

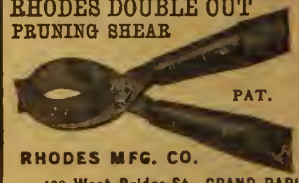
Great numbers of farmers earn enough as it is, but they do not have the knack of doing things with the greatest economy of time and effort, and farm homes are not often designed to afford the greatest pleasure and comfort in living. Every person should know the great fact that the most successful life is the happiest one, and that the happiest one is that in which the common and little things awaken the greatest number of mental impressions. Successful and enjoyable farming, therefore, depends largely upon one's attitude of mind towards the things with which he deals and lives. If one derives pleasure from a daisy, a hill of potatoes, and a pigweed, then each of these plants is practical and worth the growing.

Like or dislike of the farm is often and probably generally formed before the child is old enough to be influenced by the profit-and-loss side of farming. A pleasant and happy home is the very first means of keeping the boy on the farm. One means of making the home attractive is to brighten the place with flowers.

AMMONIA FOR POT PLANTS.

Common washing ammonia is an excellent fertilizer. Add one tablespoon to about three quarts water and thoroughly water the plants with this once a week for a period of about six weeks. You will notice a marked change in growth and color as well as in the bloom.

RHODES DOUBLE CUT PRUNING SHEAR



Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.

RHODES MFG. CO.
420 West Bridge St., GRAND RAPIDS, MICH.

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN

HAS REMOVED TO
345 SOUTH MAIN STREET

HEADQUARTERS FOR SANTA BARBARA SALT-BUSH (ATRIPLEX BREWERI)

Greatest National Bank West of Denver and South of San Francisco

First National Bank

United States Depository for Government Funds

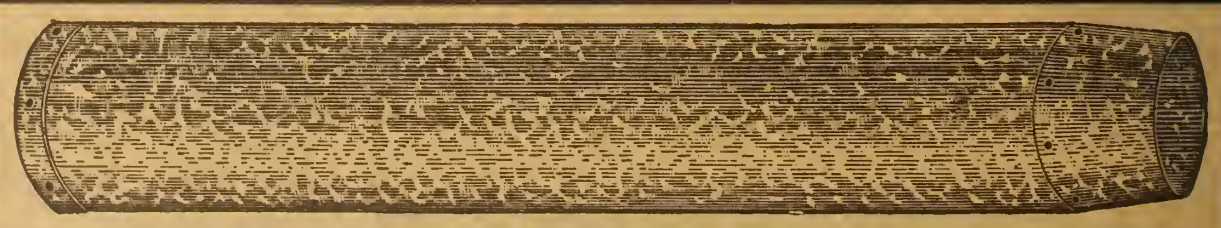
CAPITAL, $1,250,000.
SURPLUS AND UNDIVIDED PROFITS, $2,860,000

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

OFFICERS

PRESIDENT—J. M ELLIOTT. VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS CASHIER—W. T. S. HAMMOND. ASSISTANT CASHIERS—A. C. WAY, E. S. PAULY, E. W. COE, A. B. JONES.

First National Bank, Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The *only* way to *Irrigate Alfalfa. Cheaper* than *Flumes.* This is only *one* of our *specialties.* We make *Riveted Water Pipe* in lengths of *Ten Feet* from *Single Sheets.* Let us *prove* to you that we make *Pipe* and *Tanks Right.* WRITE FOR CATALOGUE.

TALLERDAY MANUFACTURING CO.
210 No. Los Angeles St. Los Angeles, California
Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

In the Vegetable Garden

VEGETABLE GROWING.

Vegetable growing is an important branch of horticulture, and in order to grow those esculents successfully and raise them in prime condition, either for family or market use, the aspirant for success requires both skill and tact, in order to receive a fair financial return for his labor. Probably any person of ordinary intelligence can do so, yet at what an expense to the palate as well as to the pocket of the grower. In order to grow them to perfection it requires care, keen appreciation and good judgment. Given a modicum of practical knowledge of agriculture, dexterity in the use of modern implements, a fair start in a salubrious climate and a productive soil, and there is every reason to believe that the intelligent California farmer can achieve success in this department of agriculture sufficient to elevate it as a branch of rural production far above the limited resources and primitive methods of the long-queued Oriental.

In order to simplify garden or field operations and avoid difficulties that might arise during the routine of planting, etc., a systematic plan should be drawn out on paper, divided out in plots, in order to ascertain the number of plants and the amount of seed to be planted or sown.

It need hardly be stated that if the land selected for cropping be ineffi cient in nutritive qualities the enriching of the soil is absolutely necessary in order to insure a fair crop of sound and well flavored vegetables. Well decomposed barnyard manure is an excellent fertilizer and may be used in ample quantities to put growth-giving vigor into the deeply plowed and well-prepared soil.

Operations for spring gardening should commence early in February. At this time may be sown onions and broad beans, such as the green Windsor, also lettuce, carrots, radishes and the earlier varieties of peas. Sow in boxes toward the end of the month peppers, tomatoes and egg plant. Protect them from frost if outside the frostless belt, and secure them with sufficient shelter from the hot sun when coming through the soil. Your plantation in the open ground must be attended to when freely growing and watered during a dry spell. When the rains come, plant cabbage, onions and peas for winter or spring use. Sow also turnips, lettuce and radishes; these are hardy and will serve you in winter and early spring.

Where there is a family of young children they should certainly be encouraged to cultivate a garden. There is nothing so eminently successful in cultivating the young faculties as the study of the vegetable kingdom, from its study we gain intellectual strength and it refines and moulds young minds to gentleness and perception.

Apart from the general interest which the children should take in the family garden, they ought to own a small plot for themselves where they could raise small quantities of fruit and vegetables for exchange and sale. They should not attempt too much at first, but cultivate a few things to begin with and add to their stock as they gain in knowledge and expertness. They should also form a "juvenile horticultural club," and hold, at least once a year, a prize show, where premiums would be given for the best exhibits from the products of their gardens. This would add interest to the work and induce them to keen application in the performance of their various gardening operations.

Of course the children's garden would contain more than vegetables. All around their garden there should be a narrow border of flowering plants. These flowering plants must or should be raised by themselves, either from slips or seeds. And so that there may be peace and good will amongst the young gardeners each of them may cultivate a separate plot of their own, under the supervision of the gardener, father, or mother, the elder sister or brother, or anyone capable of directing their horticultural operations. Gardening is such a pleasant recreation that few of those that are attracted by its seductive influence ever forsake its benignant shrine, nor ever regret the extent of time devoted to its manifold methods and various operations.

ASPARAGUS IN CENTRAL CALIFORNIA.

The production of asparagus in Central California has reached a height of perfection probably unsurpassed anywhere in the world. On the Sacramento and San Joaquin rivers are five canneries which pack this luscious vegetable. Three are in Sacramento county—one at Sacramento, one at Trasks Landing and one on Grand island. On Boulden island, at the junction of the Mokelumne and San Joaquin rivers, just south of the Sacramento county line, there are also two large canneries which pack asparagus. There is still another at Milpitas, in Santa Clara county. The canneries at Trasks, Grand island, Milpitas and Bouldin island pack asparagus exclusively.

To get the best results the canneries have to be established in the neighborhood of the asparagus beds, because in a few hours after cutting the asparagus becomes tough. The entire asparagus stalk, if cooked within a few hours after cutting, is tender, while if kept longer, only the tip itself is tender enough to eat. This is the reason why asparagus properly canned is all edible, while of market asparagus, as a rule, only the tip can be used.

For canning the stalk is cut just as it indicates its presence by raising the earth. The knife is run down below the surface of the ground, and it is then cut, perfectly white in color. It is "processed" within two hours after being cut. There is quite a difference in results between asparagus processed two hours after it is cut and that which is processed in from thirty-six to forty-eight hours, so far as tenderness, flavor and color is concerned. Light turns the shoots green. The canning process is very simple, and nothing is used to make the product keep; simply cooking in salt and water and excluding the air.

The plant is very sensitive to conditions of climate, soil, etc., and to get the best results in packing a combination of favorable circumstances is requisite. The peaty soils of certain river islands have been found especially well adapted to this culture.

Of late years there has been much planting of asparagus on islands in the delta of the Sacramento and San Joaquin rivers, where the soil conditions are especially favorable. Three years are required from the time of setting out the roots before the beds are in proper condition for cutting a good crop, though sometimes shoots are cut the second year. The edible shoots begin to appear in January, and the early shipments bring high prices. In March the season for canning opens, the asparagus being then abundant.

THE FARMER'S GARDEN.

When pa spades up the garden I
would give about a shilling
If you could see him when he quits.
Oh, gee! but he looks killing!
One breeches leg above his boot, his
right hand gallus busted,
A dirty rag around his neck—gee whiz,
but he's disgusted.

There is nothing the farmer will or can do that will give greater pleasure in his household than to provide them with the vegetables that may be produced from the farm garden.

The garden with many is of secondary importance. After the field crops are planted, if there is time to spare, their thoughts are turned toward the farm garden, and some potatoes are planted and, possibly, a small piece of sweet corn (too often the corn is omitted in California gardens). Should it be a surprise to any that the good housewife, who is ever on the alert for delicious vegetables for the table that should be found in the garden whrere nothing but potatoes, field corn and wheat can be found, becomes discontented and sick of the farm? It is not necessary to enumerate a list of vegetables that should be grown in every farmer's garden. But don't scrimp the garden plot; make the rows long that a horse cultivator may do most of the work of keeping the weeds in subjection.

Ranch for Sale

To close an estate, we offer 33 acres near Compton, for sale. Choice alfalfa land. Best artesian well in that section. Water to sell. Address

Phone Main 922 C. F. LEE, Pasadena, Cal.

DON'T TAKE A CHANCE

ARMOUR'S BLOOD BONE AND SINEW FERTILIZERS

with *cheap* fertilizers. Remember the analysis doesn't tell the whole story. Cheap materials, coarsely ground, careless mixing, poor mechanical condition show up in the orchard after your money and time are gone.

Get Behind the Shield

of fertilizer protection offered you in the ARMOUR trade-mark and buy the highest-grade animal products at first hand.

THE ARMOUR FERTILIZER WORKS
736 Hellman Building, Los Angeles—Factory, Colton, Cal.

Strawberry Plants

200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address
F. S. Lee, Pasadena, Cal. Phone Main 922

LAXTON'S NOBLE STRAWBERRY PLANTS

35c per 100, $3.00 per 1000. Order before Jan. 1st
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

LADY THOMPSON AND EXCELSIOR **STRAWBERRY PLANTS**

For Sale, or will exchange for Brandywines, Glen Marys, William Bells.
E. M. BOGER REDLANDS, CAL.

Berry Vines

Logan, Burbank's Mammoth Black, Phenomenal. Prices on application
Isaac Martin Merle, Cal.

BRANDYWINE PLANTS

Brandywine Strawberry Plants for sale, Kellogg's strain. No better nor thriftier plants grown. Clean of all disease; at bottom prices.
G. W. MULLENDORE, COVINA, CAL

IMPROVED GARDENA DEWBERRY

And all other kinds of Berry Plants. Nursery Stock for sale.
A. R. Rideout, Magnolia Nursery, Whittier, Cal.

Berry Plants

Brandywine Strawberry, Cuthbert Raspberry, Crandall Blackberry and Loganberry Plants.
Toluca Nursery. Toluca, Cal.

Vigorous Strawberry Plants

For Sale. 100,000 Excelsior and 300,000 Brandywine. Stock direct from R. M. Kellogg last April. Also Red Raspberry Plants.
R. De Young, R.F.D. No. 1, Pasadena, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 Pasadena, Cal.

BERRY PLANTS

100,000 Brandywine Strawberries (Kellogg strain.) $3.00 per 1000. 50,000 "A 1" Strawberry Plants, $3.00 per thousand.
50,000 Gray's Gardena Dewberries, $8 per 1000.
Raspberries, $8.00 per 1000.
Loganberries, $8.00 per 1000.
All raised on virgin soil and first-class plants.
A. E. HARRINGTON
R. D. NO. 6 LOS ANGELES, CAL.

STRAWBERRY PLANTS
(TROPICO BEAUTY)

The very best Brandywine stock at low prices for sale by the grower,
D. Griswold, Box 25, Tropico, Cal.

BRANDYWINE "A 1" **STRAWBERRIES**

250,000

Strong Growing, Thrifty Plants for sale. Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.

Frank P. Baldosser,
Covina, Cal.

C. C. MORSE & CO.

THE WELL-KNOWN

SEED GROWERS

formerly at Santa Clara, are now located at

815-817 Sansome St., San Francisco,

and are prepared to sell their seeds in any quantity, wholesale or retail.
Headquarters for *Onion* seed and all kinds of vegetable seed.
Also *Sweet Peas* and all kinds of flower seeds.
Also *Alfalfa* and all kinds of farm and field seeds.

Seeds of the Highest Quality Only

Write for Handsome New Illustrated Catalogue

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

Room 416, Hearst Building, San Francisco. Cal
115½ North Broadway (upstairs), Los Angeles

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line, $1.12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1¼ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to	10	Lines	15	cents	per line
11 "	50	"	14	"	" "
51 "	100	"	13	"	" "
101 "	500	"	12	"	" "
501 "	1000	"	11	"	" "
1001 "	1500	"	10	"	" "
1501 "	2000	"	09	"	" "

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 22, 1905

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

CONTENTS.

	Page.
Christmas Greeting	579
Pear Blight in California	580
Pruning Raspberries	580
Addition of Humus to Soil	581
Black Scale Parasite	581
Value of Our Fruit Output	582
Spraying Citrus Trees	583
Valuable Innovation	583
Nature Study in Rural Schools	584
Rural Improvement Work	584
Vegetable Growing	585
Asparagus in California	585
Editorial	586
Coast News Notes	587
Swine Raising	588
Yearly Butter Fat Tests	589
Which is Best Mother	590
Poultry for Market	591
Poultry Questions	591
Queries and Replics	595
Household	596
Markets	597

THE CHRISTMAS SPIRIT.

Once each year only comes to all the opportunity to be generous for the pleasure which giving brings. Not that we do not receive happiness from generous giving at all times, but on this day of all the year, when the spirit of Christ everywhere abounds, there is a special happiness in putting one's hands into the pocket and taking therefrom the glittering gold with which to make others glad. His must be a little soul indeed which does not receive new joy in making another happy by some token of remembrance on this day of hallowed memories than in the thought that his money jingles in his purse.

It matters not how trivial may be the gift, if it is in proportion to the ability of the giver it will always carry with it joy to the recipient. Our little people are so easily made happy. The poorer in wordly riches the father is, the happier are his children when Santa Claus fills their stockings with a few small gifts of Christmas eve. There is somehow, in the mind of every child, the keen desire to be remembered at Christmas and the disappointment of neglect weighs more bitterly in its heart than the loss of a fortune to the man of the world.

But the little ones are not alone in this desire to be remembered. We older ones become children again, the night before Christmas, and wonder to ourselves if we may not share in the general rejoicing of the coming morning by some kind act or thoughtful remembrance on the part of some one we love best. Because it is only from our dearest friends that we expect to receive a token of regard on Christmas day.

I remember once, "back in the old home town," to have seen a child weep bitterly the day before Christmas because the father had been taken from the family and the mother was too poor to buy presents for the little ones. "There will be no Christmas at our home tomorrow, for papa is gone, and Santa Claus won't come when papa isn't here to meet him."

Santa Claus came to that little girl and to her brothers and sisters, and the happiness of that day in that humble home, was never equaled in the castles of royalty nor in the palaces of the world's most opulent rich.

* * *

For once enter into the joys of the occasion with the children. Remember they are looking forward with pleased anxiety to the coming of the Yuletide and are laying their plans for the gifts they have in their hearts to bestow, do not cripple them in this or treat their desires with indifference nor rob them of that which will give them so much happiness, but accede to their wishes as far as possible and try to enter into their feelings and study them in the light we looked at things when we were boys and girls. Make this queen festival a day of delight, gladness and good cheer.

There is a well timed maxim that "to him who giveth to the poor lendeth to the Lord," and with what measure of happiness we give is joy returned an hundred fold.

"Soon the bells will be ringing
In the holy Christmas morn,
And our hearts will all be singing:
'Christ in Bethlehem is born.'"

Chysostum in 386, in a Christmas sermon at Antioch, states that the 25th of December was the proper date for the Christmas festival, and called it the principal feast.—Schaff.

* * *

Christmas is always a time for gladness. Well may it be, for we celebrate it as the holy day of the calendar—the aniversary of humanity's deliverance from the thralldom of superstition, doubt and fear; the birthday of Him who linked the experiences of life with the hopes of Heaven, who joined the realities of time with the certainties of eternity. The man of sound mind, clear conscience and pure heart ought to be sincerely happy at Christmas time. Then, too, the holiday season brings to us the commencement of a new year. To the thoughtful man this is always a significant season. He may not indulge in "new resolutions," which may or may not be of value to him, but he realizes that another step has been made in the majestic march of time; that another link in the century chain is forged; that the human race is one mile stone nearer to its ultimate destiny. He wonders what may be in store during the next twelvemonth. The New Year may mean much to you if you improve the opportunities as they come and go.

* * *

Northern California Oranges.—For some years the claim has been made by Northern California that its oranges were of a very superior flavor and color. It was not expected, however, that the claim would ever be made that they can rival the fruit grown south of the Tehachapi, but the ambitious horticulturists of Butte and Tulare counties come forward with the claim that the oranges shipped from their respective counties has made a great hit in the Eastern markets.

The Sacramento Union, notes with much gratification, that a car load of choice oranges reached Chicago, from Palermo, in Butte county, in time for Thanksgiving, and that they were received by the lovers of California's royal fruit with marked satisfaction. The Union says:

"It must not, of course, be supposed that the oranges that saved the situation in Chicago constituted the first consignments from Northern California. That would be a grievous error, for Tulare county carried off the palm for the earliest harvest and the first shipments. Tulare oranges are said now to be half way to Australia, and although they do not have a Thanksgiving day in Australia except where a few exiled Americans may be gathered together, the oranges will be just as nice for the Christmas festivity, which is common to all Christendom. Northern California is therefore to be congratulated upon her achievement in making Thanksgiving day a success in Chicago. Without the oranges it could have been nothing more than a partial success. Considering the extent to which the northern part of the state has been denied her due in the matter of orange culture, some little self-congratulation becomes not only permissible but laudable."

We feel sure that the gratification expressed by the people in Northern California, at the success they have secured, will be felt also by the entire State. What builds up one section, no matter along what line is reflected on the state at large. It all goes to the benfit of California in the end.

* * *

To Shut Out Orientals.—Representative McKinlay has introduced in Congress a bill to extend the provisions of the Chinese Exclusion Act to Japanese and Koreans. It seems the entire California delegation is unanimous on this question, and the bill will be pressed to passage this session if possible.

We do not believe it will meet the endorsement of the Senate, as a number of Eastern Senators doubt the advisability of exciting the prejudice of more Orientals, at this time, because of the trouble we are having with the Chinese boycott, which is costing the government an enormous loss in trade. One thing is certain, the Chinese and Japanese are no more objectionable than the hordes of Slavs, Italians, and illiterates from other countries, who are coming to this country. Better amend the immigration law as a whole and shut out all undesirable aliens who never will make good American citizens. That's the thing to do.

* * *

Pure Food Movement.—There is a general movement throughout the country looking to the enactment of pure food laws in states. Congress has before it a pure food bill which may be worked this session, but its efforts will be supplemented by the local boards of health which are moving along the same lines.

The prosecution of several of our city milk venders for selling milk that was below the standard in quality or purity is an important step in the growing movement for pure fods. Dealers in milk who have erred by design or from want of knowledge are not the only offenders, as it is a fact which has been well established that many articles or preparations of food are adulterated or reduced below standard. for which manufacturers and packers are most often to blame, though dealers who, from their desire to buy cheap or to undersell others, buy inferior articles are also to be blamed. They may be ignorant sometimes of the deleterious nature of their wares, but when the cost price falls below what they know that a pure article ought to cost they cannot be ignorant.

It is an encouraging sign of progress that many manufacturers are advocates of legislation to maintain the purity of food, and that there also are manufacturers whose methods are such as to make their names a guaranty of absolute purity and cleanliness. We have an example at a packing house in our own city of a system of preparation and packing that insures the most cleanly and pure product.

There is a proverb which says that the good Lord sends us food, but an entirely different power sends us our cooks, but the really devilish work is done by the manufacturer who adulterates food articles and palms off deleterious stuff under guady labels and high-sounding names.

* * *

FARMERS' INSTITUTE.

Last week four successful institutes were held in that very interesting and comparatively new country, the Coachella and Imperial valleys.

Land reclaimed from the great Colorado desert and made to blossom as the rose. The most wonderful fertile land in the Union. A Brobdinagian land where everything grows and develops gigantically. Trees were shown to the visitors less than two years old that measured 36 inches in circumference, and everything in similar proportions.

The institutes were well attended and were ably conducted by Mr. J. B. Neff of Anaheim, who also took part on the subject of trees and how to fight the melon aphis. The favorite subject was canteloupe, on which an able essay was given by Mr. Leap, who has successfully raised them for three years. Asparagus was an interesting theme by Mr. R. B. Thayer. He told of his work in this line and described asparagus as growing to a height of four feet the first year from the seed.

Cattle and hogs—the best breeds for that country were discussed by Professor Major of Berkeley University, a thorough expert in this line, who could and did give reasons for his faith in the various breeds.

Mr. F. Kellogg of Goleta was the expert on dairying. His advice for every dairyman to have a good pump brought down the house, and all appreciated the valuable information he gave. His talk upon the boys and how to bring them up and keep them satisfied with their home was good.

The poultry question elicited much interest. for those valleys seem a paradise for fowls of all kinds—many herds of turkeys numbering up to eight hundred head proved money makers, whilst chickens and ducks were to be seen galore on almost every farm. The absence of fogs and rain make the chicken and turkey interests a perfect success. The abundance of alfalfa only two years old, but apparently five feet high, gives the necessary green food.

At each place visited, Thermal, Brawley, Imperial and Holtville, there were newspapers with reporters at all of the institutes, and there was evidence of energy and progressiveness of the whole country.—B.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The Imperial Press says Prof. Mills of Pomona is the best posted man in the state on Malaga grape growing.

The San Fernando Fruit Growers' association shipped a carload of second grade oranges last week which netted it $1.00 a box. So says the Press.

Five hundred and eighty-three cars of oranges have been shipped from Lindsay, Tulare county, up to Saturday of last week, states the Lindsay Gazette.

The Earl Fruit company has been awarded gold medals by the Portland exposition for their exhibit of cherries and apricots grown on their Vaca valley orchards.

The Whittier News states that C. W. Leffingwell has shipped this season 150 cars loads of lemons and 25 car loads of oranges. He is enlarging his packing house.

The Apple Growers' Association of Los Angeles held its monthly meeting on Monday, at which Nelson Ward of Compton read an instructive paper on the apple in Los Angeles County.

The California Promotion Committee figures that California will ship more than 20,000,000 gallons of wine and brandy this year. This State produces, according to the committee's statement, 70 per cent of all the grape wine.

The California horticultural exhibit has been returned from Portland, says the Sacramento Union, and is now in the basement of the Capitol. Mr. Isaac intends, should it be found practicable, to have part of it displayed in the office of the horticultural commission.

There were shipped East from the Watsonville country this season, says the Analy Standard, 3,600 carloads of apples. The railroad charged the growers $358 per car freight on these 3,600 cars of apples, bringing the freight bill on the same up to the enormous sum of $1,288,800.

The grape crops in the dry wine districts of northern California are short this year. The best estimates place the shortage at one-third of an average yield. The weather conditions early in the season were not favorable, and then a "hot wave" late in the summer did considerable damage in Sonoma county. The price of dry wine grapes was good, although in some places the wine will be only of fair quality, as the grapes were heavy in sugar.

The San Francisco Chronicle thinks packers should encourage the olive industry in California more than they do by paying the best possible price for olives delivered, or on the trees, as the acreage is not nearly sufficient to satisfy the demand of one large concern alone. The land in Yuba, Butte and Yolo counties is especially adapted to this industry and as the harvest of the olives comes at a time when the other farm work is over, there is ample time to give this fruit proper care in marketing it. Cheap land, plentiful water, favorable climatic conditions and a ready market combine to make California the best place on earth for the successful propagation of olives.

This is the way the San Francisco Chronicle dishes up the Fresno raisin contention: There is an awful row in the Raisin association. Mr. Kearney has been back from Europe for some time, and when he is in Fresno in the raisin season he is usually a storm center. He is president of the Growers' association, having become a member and contracted his raisin crop for six years. The Fresno papers state that while remaining president of the association, and an exceedingly lively minority of one in its governing body, he repudiates his contract to deliver his crop to the association on the ground that it is a combination in restraint of trade! Such a situation, we think, is unique. So far as we can judge from reading the Fresno papers the whole intricate structure of the raisin organization is likely to go to pieces.

AGRICULTURE.

There is talk of organizing an agricultural association with race track attachment at Visalia. Tulare city wants the farmers to enlist in a membership agricultural association.

The Pacific Coast Railway shipped more grain and beans to city markets last week than during any week this year, the aggregate being about 530,000 pounds, says the San Luis Obispo Tribune.

The Imperial Standard says: "With the closing of the threshing season for alfalfa various districts of the valley are being heard from in regard to yield of seed. On the Heber ranch of Fuller Brothers, where from 40 acres only was threshed 9,620 pounds of choice seed.

Horticulture Commissioner Smith of Riverside County says that the potato and olive crop this year will be the largest since 1892. The onion crop in San Jacinto will average twenty sacks to the acre. The honey crop will be about 600 tons. The almond and walnut crops are the best in many years.

The olive mills are now putting out 2,000 barrels of flour a month and are running day and night. The monthly payroll is $800 and between $10,000 and $12,000 is also paid out monthly for grain, while the sales run up to about $15,000. The company buys all of the best grade of wheat it can find in this portion of the state, but is also compelled to purchase large shipments from Kansas. It also buys corn, barley and oats in large quantities.—Anaheim Gazette.

Within the next few days an innovation in farming in Sonoma County will be introduced on the Cotati Rancho, eight miles north of that city. Risk Brothers, who own and rent nearly 1000 acres of that celebrated rancho, have decided to experiment with steam plows upon their vast acreage. They have secured a hugh traction engine and will attempt to run eight large plows by the power furnished by this engine. The plows will be kept running night and day, two crews will be used.

Riverside county has an area of 7,000 square miles, with 933,210 acres assessed. Last year more money was received for oranges than for any other product, $5,377.495, the lemon crop aggregating $1,055,145. Next in value to the orange crop is the grain output, which totals an even $2,000,000. The dairy output was $408,850 and the honey totaled $92,335 in value. Of fruits other than citrus, peaches led with a value of $53,000. the prune crop being second with a value of $48,000. Pears were $16,000, apples $14,000, almonds $10,500, grapes $8,230, strawberries $6,500 and vegetables $45,000. Poultry sales were $117,130. Manufactured products aggregate in value about $500,000.

MISCELLANEOUS.

Sonoma County has attracted a small company of settlers from the Big Bend country in Washington.

The sulky in which Lou Dillon, 1:58½, the "Queen of the Turf," made her memorable records, has been purchased by Thomas L. Hehir of Santa Rosa.

H. W. Dockham, editor of the Lindsay Gazette, has been held to answer before the superior court of Sacramento County in a charge of criminal libel preferred by A. R. Sprague. His bail was fixed at ..500.

A woman saved the maple trees in the Chico public park. The park commissioners decided that the maples were retarding the growth of the orange trees and decided to cut them down. A gang of men was started at work, and notwithstanding the protests of the business men had destroyed a dozen, when their work was discovered by Mrs. Bidwell, who made a personal appeal to the commissioner and they quit.

LIVE STOCK.

E. Manier of Globe, near Placerville, has shipped 375 turkeys for Christmas.

The Dairy and Produce Review states that a new receiving station for cream will be established in the near future at Dos Palos.

The price of milk at Lodi has been increased from $1.50 to $2.00 per quart per month, and for pints has been increased to $1.25.

The State Dairy Commission of California proposes to inaugurate a most vigorous campaign next year against all unclean dairies in the State. 'Tis well. Let the good work go on.

Plans are matured for incorporating a poultry farm at Maywood, Tehama county. The New Era estimates that there will be one million chickens in Corning within the next five years. This means a daily revenue of $3,000 to $4,000.

The Santa Barbara Live Stock Association is discussing the advisability of endorsing the policy of the State Veterinarian in segregating certain districts in the county which are "clean" for the purpose of removing the quarantine.

One of the most important annual conventions of the State Creamery Operators and Butter Makers' Association of California was held in Modesto last week. Fifty delegates from different parts of the State answered the roll call.

The health officials of the city of Eureka, so it is said, have recently created considerable stir on account of the milk supply. A good many samples were taken and some of these were found to be drugged, and milk from tubercular cows was being supplied to the people.

The dairymen who are supplying San Francisco with milk are making a very good showing in opposition to the employment of the bacteriological test of milk, claiming that great injustice has been done them, as it is not the number, but the kind, of bacteria present in milk which determines its healthfulness.

A Marysville dispatch to Sacramento Union, Dec. 11, says: Hogs are profitable in Yuba County. Indeed, they are more profitable than horses or cattle in some instances. James McDowell of Sicard Flat does not raise hogs extensively, but two that were raised by him have just been sold, and he received for the dressed meat $69.12. They were 464 and 400 pounds respectively, and were but a year old. The price received was 8 cents a pound.

CLIMATE AND CROP SERVICE.

United States Department of Agriculture, Climate and Crop Bulletin of the Weather Bureau, California Section, for the week ending Monday, December 18th, 1905:

General Summary.—The weather continued cool and clear during the first part of the week in the central and northern sections and warm and clear in the south. Cloudy and unsettled weather prevailed toward the close of the week and light rain fell in nearly all sections on the 15th and 17th. Frosts occurred frequently, but caused no damage.

The cool weather and unusually light rainfall in the central and northern sections retarding farm work and the growth of early sown grain and pasturage. The soil has not been thoroughly saturated this season and is too dry for profitable cultivation. The outlook in the coast districts and in Southern California is very much better than in the great valleys. Grain is up and making fair growth and new range feed is in good condition, though needing rain in some places. Dry feed and hay are plentiful, but in most sections cattle are thin and in poor condition. Plowing and seeding continue in some places.

Northern California.—Cool and cloudy, with frosty mornings in the interior. Grass and grain made slow growth. Very little plowing; no seeding. Stock in poor condition.

Southern California.—Clear and warm weather continued most of the week, with light rain at the close. Frosts occurred in some sections, but caused no damage. The high winds at the close of the preceding week were confined to interior localities, no damage having been done in the coast districts. No definite reports of the damage to orchards in the interior have been received, but undoubtedly oranges and olives were considerably injured. Orange harvest is in progress and large quantities of oranges, olives and raisins are being shipped for the Christmas trade. Plowing and seeding are progressing and the acreage in grain will probably be larger than last year. Early sown grain and new grass are making fair growth.

LINERS

"THE CEMENT WORKERS HAND-BOOK" tells Farmers how to do all kinds cement work successfully; Walls, Floors, Walks, Tanks, Posts, etc. 30,000 words. Second edition. Cloth bound. Send 50c to W. HENRY BAKER, Wadsworth, Ohio.

FOR SALE—60 CHICKS, FIVE WEEKS old. White and Barred Rocks, White Wyandottes and Rhode Island Reds. Price 30c each. C. H. CUSHING, east end of Park Ave., Tropico, Cal.

WANTED—RANCH 50 TO 200 ACRES TO take care of on shares. Chicken and orchard preferred. Address L. B., care Rockford Illustrating Co., Rockford, Ill.

WANTED—SECOND-HAND FANNING Mill; must be in good condition. Address B. D. F., 2418 Edwin St., Los Angeles, Cal.

FOR SALE—HENS AND CHICKENS AT Palms Station, Gardena.

C. H. SESSIONS, ASSOCIATE EDITOR

THINGS TO KNOW IN SWINE RAISING.

It has been said that for big money breed horses, for sure money eattle, for quick money hogs. Today we might eombine all three sayings in the latter, as the breeding and marketing of swine pays the general farmer better, surer and quicker than any of our domestie animals. Ameriea is pre-eminently the home of the hog of the future, as he is a logieal deduetion from Indian corn. When judiciously fed, there is no healthier food than eorn for hogs, and there is no better meat food than that whieh has for its foundation the corn of our eommon country.

In produeing the hog of the future, the signs of the times point to two important things very plainly, the honesty and integrity of the breeder and the individuality of the hog, both of which will receive greater and greater attention. From now on, the pig will be more of a faetor than the pedigree. Do not attaeh undue importance to popular strain, but pay especial regard to vigor of constitution, robustness and capacity for digestion and assimilation.

Among the objeetionable features to be guarded against are the slender, pipe-stem style of legs, slim, uneertain ankles and weak feet, with a failure to earry the meat of the ham full and well down toward the hoek. The strong, arched baek, the well sprung rib, the full heart girth, the broad shoulder and deep ham, the strong under-pinning the shapely foot—these are among the more vital points to be observed in building up a good and thoroughly useful herd of hogs.

Fig. 1—Good type of Poland Chinas

The good brood sow should be large and long, deep bodied, neat head, broad between the eyes, medium sized, flinty bones, with large heart girth. Select sows of the progeny of matured dams, that are kind mothers, prolifie and of quiet disposition. If a sow possesses these qualities and is a good breeder, keep her as long as you can. In selecting betweeu extremes, I would prefer the dam to be coarser and more rangy and tone this down with the sire.

In selecting a sire, he should be a thoroughbred of the same breed as the female, and a first-class individual. Do not let a few dollars stand in the way of gettin- a good animal. If possible, select him yourself. He should be more compact than the female, with very short head, broad between the eyes, and short, full neck, a strong, well-coupled baek, strong in the loin, with a well sprung rib and deep, full heart, short legs standing on short, strong feet. The top and bottom lines should be nearly parallel, exeept that the back may be slightly arched. Select the breed best adapted to your needs and tastes and stiek to it. This is the only way to keep up a high grade. Do not eross breeds. Sometimes a single outeross gives very satisfactory results, but I do not advise it. It is a good rule not to mate young sows before they are eight or nine months old.

I want to emphasize the advantage of having sows of the herd farrow as near the same time as possible. You will then be more inclined to give them eareful personal attention. Then, too, there is no more desirable feature in a buneh of shoats than uniformity. If the pigs are farrowed the same month and can be weaned about the same time, the sows all go to the field out of sight and hearing of the pigs, and the chanees are that the pigs will be better and fed more evenly than if weaned at different periods. A earload of even, eompact hogs will outsell a mixed earload.

Fig. 2—Standard type of Berkshires

The diffieult problem of management of farm stoek is to get frames for finishing. As an aid to this end alfalfa furnishes the cheapest material for perfect development of form and frame. It is nearly a perfect ration in itself, and should be the standby of the farmer. Indian corn is very convenient for hogs, but a variety of feed insures better health and better growth.

Fig. 3—Healthy Shoats in pasture

Pigs should be eating regularly and in sufficient quantities so there will be no checking of growth at weaning time. During the first four months of a pig's life do not feed too mueh corn. The secret in producing pork cheaply is to maintain a steady gain and higher degree of health and vigor from the very start. In the eorn belt, corn will always be the best and chief ration for maintaining hogs, but while they are growing feed them largely on grass, milk, roots and mill feed. Under all circumstances, give a variety of food, so as to keep up a keen appetite and produee a healthy and thrifty condition. No other domestie animal requires eloser or better attention than the hog, and no other animal will pay better for this attention.

Usc disinfectants freely about the premises. Lime, earbolic aeid or chloro-naptholeum are excellent. Keep all feeding floors and sleeping pens perfeetly clean. Tolerate no vermin in your herd by frequent use of kerosene emulsion. Keep hogs supplied at all times with pure water. This can easily be done by using some of the many automatie drinking founts now on the market.—F. H. Rankin.

In feeding stock, bear in mind that the cheapest feed is not that which costs the least, but rather that which gives the best results. All animals on the farm should not only be supplied with good food at all times, but also that which is adapted to the purpose for which the animal is kept.

Sheepmen should be satisfied and all stockmen encouraged to know that range lambs are selling at from $6.40 to almost $7, and that when sold lower, about 33 1-3 off these prices, for feeders it is for fully $1 per 100 higher than a year ago. Some leading stock commission houses freely predict that good feeders will range from 50 cents to $1 per hundred higher than they did last year for the entire season.

Col. J. M. C. Marble, Pres. E. E. Moore, V. P. and Gen'l. Mgr. J. E. Marble. J. E. Fishburn W. C. Marble, Secretary.

STERLING MILK COMPANY
INCORPORATED

REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DE LAVAL SEPARATORS
AND OUR LINE OF DAIRY AND CREAMERY MACHINERY
are far superior to other like goods. The cost, efficiency and durability considered, are no higher than so-called cheaper grades. Everything on hand for the Dairy and Creamery. Write for Catalogues. Mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

U. S. SEPARATORS SOLD BY K. B. NORSWING
MAIN ST. AND SLAUSON AVE., LOS ANGELES
Separators can be seen at store, near end of Maple avenue car line.
If you contemplate buying a machine let us show why ours is the simplest, easiest running and most lasting.
Separators can also be seen in operation on nearby dairy farms. Correspondence solicited.

$201.00 in Prizes and 2 Silver Medals
WON ON BUTTER MADE FROM
GATHERED CREAM
SEPARATED BY
U. S. CREAM SEPARATORS

"Richmond, Quebec, Sept. 28, 1905.

I am pleased to advise you that my butter which was made from **gathered cream** at the Kingsey Creamery, of which I am proprietor, was **awarded $201.00 in Prizes** at the different Expositions of this season.

The first of these was the Sherbrooke Exposition, where I received the Eastern Townships Bank **Prize of $75.00** for the best exhibition of creamery butter, and also the **Medal** for the **highest score** in points.

At the Toronto Exposition I received **Two First Prizes** and **One Second Prize,** and tied with another Quebec Creamery for the **Silver Cup** offered for the highest score in points, with the result that we were both awarded a **Silver Medal,** also a **Diploma,** for the **highest score** instead of the Cup.

At the Ottawa Exhibition I received **One First Prize** and **One Second Prize.**

I also took the **First Prize** at both the Richmond and Drummond County Fairs.

Last year I was **awarded $112.00** in Prizes and a **Gold Medal.** I believe **this record cannot be equalled** by any other Creamery in this Province or in the Dominion of Canada, and think this speaks well for the quality of butter made from gathered cream, **90 per cent of which was separated by the farm sizes of United States Cream Separators.**

E. W. EVANS."

Our free Catalogue tells why it will pay every farmer to skim his milk with a U. S. Separator. Write for a copy now.

VERMONT FARM MACHINE CO.
BELLOWS FALLS, VT.
18 centrally located distributing warehouses throughout the United States and Canada 425

Prompt Delivery Assured California Customers from San Francisco House No delays. Address all letters to Bellows Falls, Vt

Sharples TUBULAR CREAM SEPARATORS

21 POUNDS MORE BUTTER PER WEEK

Barnesville, Ohio, June 20, 1905: We were milking ten cows May 19. That day we took a Tubular separator for trial. **We used it one week and got 86 pounds of butter that week. The week before** we used it, we got only 65 pounds. **The week after** the agent took it away we got only 64 pounds. We felt we ought to have it. Later we arranged to buy it. We recommend the Tubular to anyone interested in cows. It surely will pay any one to buy a Tubular.
(Signed) LONA and C. W. ACTON.
Write for catalog Y-260. It explains fully.

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
TORONTO, CAN. CHICAGO, ILL.

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

Thoroughbred Poland China Swine and Black Minorca and Barred Rock Poultry
High grade stock of best strains Young stock for sale
M. BASSETT, HANFORD, CAL.

BERKSHIRE BOARS, All Ages
T. WAITE, PERKINS, CAL.

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd. Also Black Minorca chicken eggs in season. Stock for sale, also bred sows. W. B. McCASLIN & SON, Walsh Station, Sacramento County, Cal.

Registered Shorthorns
—MILK STRAIN—

Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

John Lynch
Box 321, Petaluma, Cal

SECURITY Stock Food

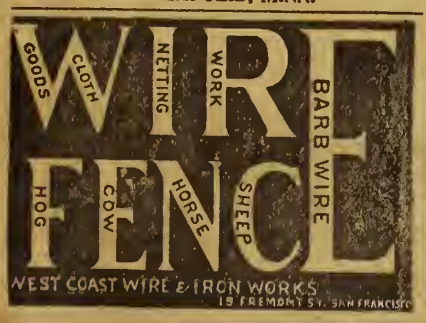
is sold on the honest plan of satisfaction or no cost. This is a straightforward plain talk and means just what it says.

Use **Security Stock Food** (glutenized) for growing animals; for fattening animals; for work horses; for milch cows. The Food won't cost you a cent if you can't see that **Security Stock Food** has saved feed, made quicker growth; kept your animals in better condition, given more milk, and made you more money. Write us if not satisfied and we will refund price in full. You are the sole judge. No questions asked.

For five years this guarantee has been on every package sold. It also covers Security Poultry Food, Lice Killer, Gall Cure, Colic Cure, Worm Powder, Calf Food, Heave Remedy, Healer and Rheumatic Liniment. Security preparations are sold by dealers in almost every town in the United States, who will recommend them highly and "back up" our guarantee.

SECURITY IS THE ONLY GLUTENIZED STOCK FOOD.

SECURITY STOCK FOOD CO.
MINNEAPOLIS, MINN.



YEARLY BUTTER FAT TESTS.

Editor Cultivator:

Herewith find clipping from the Jersey Bulletin. You see the authenticated butter fat estimate. Yearly tests are coming to the front. The only test that can be relied on as a sure indication of a cow's value for milk and butter. The Jersey Bulletin cracks up the seven-day tests. Why? Because there is money in it for their advertising bull calves from big seven-day test dams. The only test for business is the yearly test, as we have to feed and care for our cows the year round. It is not the cow that whoops it up for a little while that we are looking for for profit. It is the long distance one. Many of these cows that are able to make 14 pounds of butter in seven days will not show their 400 pounds of fat in one year. So the seven-day test is not a sure indication of a cow's true value as a butter producer.

This is not written for publication as I do not (in my position) care to crack up any kind of a test, but some of the talk in the Jersey Bulletin makes me tired—trying to discriminate against the Babcock test in favor of the churn. The Babcock tests give a cow credit for all the fat there is in her milk; no more, no less. What else does any one want to make butter out of?—C. S. Burgess.

"During the past week or ten days the American Jersey Cattle Club has received nineteen private butter tests, two authenticated fat estimates and one private fat estimate, all for the period of seven days. This is a good indication of the importance attached by Jersey breeders to the testing of their cows and to placing the tests on record where they will be permanently available for reference.

Private butter tests for a week or longer have always been encouraged by the A. J. C. club, and it is now a good many years since it began to publish those tests, fulfilling its requirements. At one time such tests seemed a sufficiently good demonstration of the performance of dairy cows. This is the case no longer, in the opinion of many experts and even in the opinion of the dairy public at large. The present desideratum is the test for a long period—a year or full lactation time—authenticated or guaranteed by some authority independent of the cow's owner. The A. J. C. C., as well as other breed associations, has made provision to meet this demand, the club even offering to pay one-half of the expense of authentication. No reflection can be considered to be cast by this action upon the credibility, or the desirability either, of the private test, which the club still continues to receive and publish. But it cannot be disputed that the year's test is the test to show the capability of the dairy cow, or that the test that is independently certified to is the kind of test that will carry most weight with the general public.

Many owners of pure bred dairy cattle fully realize this and they are taking up this line of demonstration with alacrity. In last week's Bulletin something was said in regard to Jersey breeders who are putting their cows on yearly tests. Our friends, the Guernsey breeders, had somewhat the start of the Jerseymen in this respect, and they certainly have not let the grass grow under their feet. Up to May last they had put on record 332 official tests for one year periods and had entered 271 cows and fifteen bulls in their Advanced Register.

At this rate, notwithstanding their far greater number, it would seem that Jersey breeders will have to do some hustling in order to overtake their Guernsey rivals."

A. Faught, a prominent rancher and sheep man living north of Santa Rosa, reports that dogs are playing havoc with his sheep. He states that dogs got into his pasture one night last week and killed 23 of his sheep and wounded 23 more.

GRAND
AUCTION SALE

The Finest Dairy Cows in the State. Do not miss this sale, as everything must go under the hammer. No reserve.

Thursday, Dec. 28th
At 9.30 A. M.

200 Head Cows and Horses
FARMING IMPLEMENTS

28th and Arlington Streets, Los Angeles
Take Jefferson St. or W. Adams Car to Arlington

160 head Milk Cows, 16 Work Horses, 4 Single and Double Drivers, 3 Thoroughbred Holstein and Jersey Bulls, 7 Farm Wagons, 3 Express Wagons, 7 sets Work Harness, 3 Sets Buggy Harness, 3 Buggies.

This stock is well known to be the Finest Dairy and Family Cows in the State. All are Large Rich Milkers. On account of subdividing my ranch into town lots, am forced to sell. Everything on the place must be sold without limit or reserve. I have been in the dairy business the past 18 years, and by careful selection have reduced my herd to the finest possible milking strains.

TERMS—6 months time given with approved security. Lunch at noon.

J. L. Starr, Owner
Rhoades, Reed & Rhoades, Auctioneers
730 S. Spring St., Los Angeles

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

6 Thoroughbred Jersey Calves
FOR SALE
High-grade stock. Pick of the herd. $50 each. Write or call on
E. E. MOORE - COMPTON, CAL.

Must be Sold by January 1st, 1906
Having sold my ranch, I am forced to sell 40 head of Registered and Grade Jerseys. Ten registered cows, milking now; 4 young heifers, eligible; 8 bulls, registered or eligible; 18 cows and heifers, pure bred and grade, not eligible. This herd represents some of the best blood on this coast. Parties wishing to see the stock can take Santa Ana electric car and get off at Hansen. Station is right at the ranch.
W. J. Cole, R. F. D. 1, Anaheim, Cal.

BULL FOR SALE
Having sold my ranch I am forced to sell Golden of Biltmore 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***if not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***
C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.

VENADERA HERD
OF REGISTERED JERSEYS
Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.
Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.
Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys
Sons of imported Golden Marquis out of prize winning and tested dams. for sale.
L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert
At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.

La Palma Stock Farm
We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.
Also a fine Registered Jersey Bull and Six Registered Cows for sale.
Write for what you want.
J. A. CAMPBELL, Buena Park, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

WHICH IS THE BEST MOTHER?

"Well begun is half done." Hatch chicks well either under a hen or in a good incubator and if the parents were vigorous, the young ones will be also. The natural tendency of a sturdy chick is to live, thrive and mature, and all we have to do is to encourage this tendency and help Nature in her work. The nearer we can come to Nature, the greater will be our success.

As there are three essentials in the production of eggs, so there are three in the raising of chicks, whether under a hen or in a brooder. These are comfort, proper food and exercise.

In our last chat we talked about comfort and decided that the chicks must not be crowded, but must have ample space and plenty of oxygen, or in other words, pure air warmed, but no drafts. Here is a great fault in many of the brooders, especially the hot water pipe or sectional brooders in use in many brooder houses and at one time so popular. I tried them for several years. The hot water pipes merely heat the air that is already in the hovers, which air is practically confined to the hovers by the felt curtain in front, provided to keep in the heat. It does that, but it also encloses the air which the chicks have to breathe over and over again. This defect in my brooders cost me the life of many chicks before I discovered the cause. when I changed to what is called the "individual" brooders.. Individual brooders make very satisfactory "artificial mothers," or foster mothers for chicks. They are called individual from each one being supplied with a separate lamp and being separated from each other. They may be used either indoors or out of doors according to the season of the year and the pattern of the brooder. For a home-made brooder I have found the one called the "Sanborn brooder," which I described some months ago in the Cultivator, most satisfactory. As a rule, in the early spring or in unsettled weather, it is wise to have these brooders under shelter, for while this is not absolutely necessary with a well constructed brooder, it is a great convenience to the attendant when caring for the machine and chicks, to be sheltered from inclement weather. Such shelters need not be expensive, and may afterwards be used as henneries.

With indoor brooders, a brooder house is very convenient. The advantages of such a house are, when the weather is stormy and wet the chicks have a comfortable shelter and will be busily engaged scratching in the litter on the floor of the house, happy and growing all the time, safe from inclement weather.

Individual brooders should have their floors well sanded and covered to a depth of an inch or more with some fine scratching litter to induce exercise and provide bedding. The litter should consist of finely cut dry clover or alfalfa hay, chaff or wheat straw. It should be cleaned regularly, the dirty litter and sand being replaced by clean material. A good rule is to clean once the first week, twice the second, three times the third, and daily thereafter. The brooder lamp should be cleaned and filled daily with the best oil. Good oil greatly lessens the risk of fires. The wick should be renewed frequently, at least once a month, so there will be no danger of the flame going out, or of irregularity in the heat, which comes from the use of an old wick.

The hover of the brooder should be aired and sunned daily, while the chicks are busy eating, for sunshine is the best natural disinfectant and health-giver. Careful attention to these little details will be well repaid in better results and better chicks. It is the little things that count.

* * *

In modern up-to-date brooders, with an excellent system of ventilation, there will be no trouble from lack of fresh air, for a supply of fresh air warmed to the right temperature in the heating chamber and then passes under the hover, supplying both heat and pure air at all times to the chicks. The individual brooder that I prefer, is divided into three chambers or parts, the warmest right under the hover, a little less warm just outside the hover, and beyond this the play room or exercise room, where the chicks scratch in the litter for their food and where they can be confined in stormy weather.

In many of the large broiler plants, hot water pipes are used successfully. These have pipes running the whole length of the building heated by means of a stove and coil, or a water tank heated by gasoline or distillate. The hovers are placed over the pipes, removed a few feet from the wall so the chicks will have a runway on each side of the hover and pipes. The runs and the floor under the pipes should be kept well sanded and have litter on them at least an inch deep. The pipes should be about three inches from the floor for the tiny chicks and should rise gradually until those at the end of the house are about six inches from the floor, or the floor should be lowered until it is six inches below the pipes. As the chicks grow they should be gradually moved along in the brooder house. The brooder house must be kept thoroughly ventilated but without a draft.

* * *

The temperature of the brooder under the hover should be from 90 to 95 degrees before the chicks are put in. It can be as cool as 90 on a sunny day, but on a cloudy day should be 95 degrees. The temperature under the hover should be gradually lowered from 90 degrees the first week to 85 the second, and 80 the third week. In a very short time one can judge by the actions of the chicks if the temperature is right. When it is warm enough they will spread out on the floor and they will not crowd together

Prize-Winning White Leghorn Cockerel.

The White Leghorn is a Mediterranean breed whose name was derived from the city of Leghorn in Italy. While they are small in size they are prolific layers. They are hardy, as a rule, and great rustlers. They are popular in California, where the climate seems to agree with them better than some heavier birds.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J.T. DAVIS, Prop. POMONA, CAL.

INDIAN RUNNER DUCKS
A Specialty. Eggs, $1 for 13, $3.00 per 50, $5 per 100
C. A. McDONALD, BEAUMONT, CAL.

Rose Comb Wh. Leghorns High-Grade Buff Orpingtons
Varian's Poultry Yards
P. O. Box 666. Home Telephone 1886
895 N. Catalina Ave., PASADENA, CAL.

Thoroughbred Cockerels For Sale
Three Buff Orpingtons and two Rhode Island Reds. 838 W. 16th St., Los Angeles.

For Pink Eye, Catarrhal Distemper and all diseases Nose and Throat Fever

Cures the sick and acts as a preventive for others, and is given on the teeth and tongue. Safe for Brood Mares and Colts and all others. $1 00 per box, ½ doz. $5.00. Sold by druggists, or sent express paid.
Paxton Veterinary Medicine Co., Box 95, Sta. C, Los Angeles, Cal

Winner New York, 1904, score 97½. Used as a model in the American Standard of Perfection.
Farm at Clearwater on Santa Ana Electric Line

W. W. HOWARD'S
S.C. WHITE LEGHORNS
Best Strain, Best Birds.
Greatest Layers. Largest Eggs.
WIN THE BLUE AT THE ST. LOUIS WORLD'S FAIR.
FIRST PRIZE HENS, St. Louis World's Fair; also at Madison Square Garden, New York's Great Show, 1905.
All specials and medals—best hen, best head, pure color.
FIRST PRIZE COCK At Madison Square, New York, 1905, and beating St. Louis World's Fair and Boston winners.
FIRST PRIZE PULLET at Madison Square Garden, New York, 1905, as well as one of the best cockerels in the U. S.; were sired by our famous Rob Roy Jr.
Our patrons report grand success with pullets from our stock; 26 eggs per month, 56 eggs in 64 days, 18 eggs in 19 days; eggs that weigh 2½ to 3 ounces.
229 eggs already this season.
Improve your flock with one of our large, beautiful White Cockerels.
Birds and eggs for setting. Price list mailed on application.
THE W. W. HOWARD CO.
(State Vice-President National S. C. White Leghorn Club)
2329 Hermosa St. Phone West 3999 *LOS ANGELES* Home 24902

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK
BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4
MIDLAND
IF YOU WANT EGGS YOU WILL FEED NO OTHER
Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders
The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?
St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:
Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."
WRITE FOR CATALOGUE 47—A BEAUTY
PETALUMA INCUBATOR CO.
Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

or huddle in a bunch, and they give a contented little chirrup when one looks in upon them at night. If they are too warm they give a little distressed cry as if complaining, and will often pant and hold their wings out. Of the two evils, overheating is the worst, but this rarely occurs in the brooders that have three compartments, each differing in heat. The temperature will at times grow colder during the night, so it is best to have it up to the desired height on retiring.

The brooder should be heated at least twelve hours before the chicks are put into it. The temperature under the hover should be 95. Keep the chicks in the incubator until they are from 24 to 48 hours old. A basket lined with flannel and covered with a blanket is the best thing for carrying the chicks to the brooder. I remove them carefully, counting them into the basket and covering them well with the blanket or shawl. Great care must be taken that they are not chilled on the way by letting the cold wind blow on them. Many chicks lose their lives by being chilled on this, their first journey.

The first few hours in the brooder they require no food, but clean, coarse sand to eat and water to drink. The sand supplies the little gizzards with the necessary teeth or little grindstones, so they are ready to commence work when the food comes. Water I place in a drinking fountain, so they cannot get into it and wet themselves. A convenient little fountain can be made out of a tomato can. Make a nail hole in the can about one inch from the open end, fill the can with water up to the nail hole, put a saucer over it and quickly invert the can. The water will leak out of the nail hole into the saucer very gradually as the chicks drink it up. Fountains on this plan can be bought at the poultry supply stores. I give the chicks a fountain of water and one of sweet skim milk from the first. Chicks will never over-drink if they have water always before them. If they over-drink it is a sure sign they have been too long without water.

We will talk about the proper food next week.

(To be Continued.)

* * *

EDITOR'S QUESTION BOX.

Bloody Eggs—Diphtheria.

Would you kindly let me know what is the reason of eggs being covered with blood? Many of my hens' eggs are just covered with blood. Do you think it is over feeding? I have about 130 chickens—Rocks and Minorca. I feed them bran in the morning and two 10-pound pails full of corn. In the evening I give them three 10-pound pails full of corn. They have free range on ten acres of alfalfa; grit, charcoal and lime always before them, and I give them boiled vegetables and meat.

(2) Have had hen which made a rattling noise first, then would try and crow. I cooped her up, discovered a hard, white substance covering her wind pipe; gave her germazone and coal oil, but she got worse and died. She just seemed to be strangling to death. Could you please tell me what ailed her. She seemed healthy otherwise. Her comb was very red and her liver was a bright red color. (Mrs. J. B. McD., Kern.)

Answer.—(1) When pullets, especially Minorcas, begin to lay the eggs are sometimes so large as to injure the egg duct and cause a small vein to bleed. This frequently happens when egg food or stimulants are fed to them. The remedy is more green food and a little Epsom salts in the water. But the trouble usually passes away in a few days without treatment. I do not think you are feeding too much.

(2) Your hen had either diptheritic roup or canker. They are very similar in appearance. For diptheria the best remedy is spraying with peroxide of hydrogen, and for canker highly paint the place with a solution of sulpho-carbonate of zinc. Two grains to the ounce of water. This will cure the canker of pigeons in one application.

* * *

Ducks and Turkeys—(H. A. S., Pasadena).

Kindly advise me in your next issue which is the most profitable all around duck, the Pekin or I. R.? Also if the White Holland turkey is as hardy as the Bronze, and which of these two mature quickest.

Answer.—This question about ducks is rather difficult to answer, because you do not state what you want the ducks for. Either market at eight weeks old or for eggs or for breeders. Nor your conditions, whether you grow the food or have to buy every thing.

Pekin ducks eat one-third more than Indian Runners and take about three months more to mature. but if you market either of them at eight or ten weeks it makes little difference. Indian Runners are very prolific layers of delicious eggs with a pure white shell, and having tried both kinds I decided there is more money in Indian Runners.

The White Holland turkeys are quite as easy to raise and as hardy as the Bronze, and mature as quickly. They are not as large. The young gobblers usually at Christmas weigh from 14 to 18 pounds, but they have smaller bones and very delicious juicy meat, and dress beautifully, not having dark feathers. They are the tamest and gentlest of turkeys, and do not wander, prefer roosting on a tree near the house, and bear confinement well. I have one beautiful White Holland hen turkey just in her prime—the last one. I wonder if anyone would like to trade me a young gobbler for her. It seems too bad to eat her.

* * *

MATING TURKEYS.

Editor Cultivator: Will you kindly inform me through the columns of your paper how many turkey hens can be kept with only one "tom turkey" to insure the eggs to hatch.—Mrs. J. W. J., Hanford, Cal.

Breeders differ as to the number of toms required. Some claiming that one male to fifteen females is sufficient and others that one to five is the right proportion. Depends upon the vigor and age of the tom.

* * *

CHICKS EATING FEET.

Editor Cultivator: What is cause and remedy of little chicks eating or pecking at each other's feet?—Subscriber, Haywards.

This is a frequent habit of little chicks. They want occupation and begin to play and having once tasted the blood in each others' feet a craving for it is developed and they become cannibals. The remedy is to give them occupation and more animal food. By scattering their grain in chaff or chopped alfalfa they will scratch in it and so find ocupation. There is nothing like employment to keep chicks and other bipeds out of mischief.

POULTRY FOR MARKET.

All who grow and sell poultry of any kind, as dressed poultry, should learn to dry-pick them at home. When prepared in this way, they are much more attractive or presentable for the purpose intended than when sold alive or scalded and picked. Dry-picked poultry of all kinds, including geese, ducks, turkeys and squabs, if of good quality, sell for better prices in the open market than they will if scalded. For home use or quick consumption, scalding will answer the purpose, but when sent any distance, or if to be kept for any length of time, dry-picking is by far the best.

When picked for shipping, if to go but a short distance, in cold weather, wrap each fowl separately in clean white or manila paper and pack close and firm in a clean box, barrel or keg. Never use soiled or printed paper for this purpose. Always use clean packages of whatever kind you may select. Dirty or unattractive packing or packings count against the value of the shipment. A mixed lot of good, medium or inferior quality usually sell at the value of the poorest of the whole lot. Careful grading of the shipment, as well as neat dressing and

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.50 and $3.00. per 14 Exhibition and utility stock for sale 132 Ave 32, Los Angeles, Cal.

BARRED ROCKS, WHITE MINORCAS, INDIAN RUNNER DUCKS AND WHITE HOLLAND TURKEYS
Prize winning birds at Central California Fair, where 7 firsts were won in '05.
JOE McDONALD, R. F. D. 2, HANFORD, CAL.

Choice Alfalfa or Chicken Ranch
Twenty acres good sandy loam soil, no alkali, abundance of water, 5-room house, large barn and incubator cellar. Near Anaheim.
WM. A. GREEN, BOX 401, ANAHEIM, CAL.

BUFF LEGHORNS
A few cockerels for sale. After Jan. 1 eggs from choice mated pens, $1.25 per 15
Chas. G. Miller, 40 Elm St., Watsonville, Cal.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

LINDGREN BROS. KINGSBURG, CAL. McPHERSON, KANSAS
BUFF LEGHORNS BARRED ROCKS
Prize-winners at Chicago, St. Louis, San Francisco and majority of prizes at Portland on Buffs. Choice Cockerels and Pullets for sale.

SQUABS PAY BIG MONEY
Require but little care. Our carefully selected, high-bred homers, at $1.40 per pair, start you right. You cannot purchase such excellent stock at this low price anywhere. Our booklet C tells all about squab raising. 10 cents.
Bay State Squab Co., Wakefield, Mass.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the last Los Angeles Show our birds won twelve prizes. At the California State Show, Nov. 27th, 1905, on I. R. Ducks, three prizes on four entries. White Minorca and White Wyandotte eggs, $1.50 per 15, $8.00 per 100. Indian Runner Duck eggs, $1.00 per 13, $5.00 per 100.

Single Comb White Leghorns
Thoroughbred Stock. Eggs, $1.50 per 15. Send for illustrated catalogue.
John P. Boden, 138 Second Street, Watsonville, Cal.

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

Walnut Grove Poultry Ranch
Standard Bred White Wyandottes, (Hay's strain). Eggs for hatching from carefully mated stock, $2 per 13; $12 per 100.
F. L. Hogue - Carpinteria, Cal.

Dean's Pacific is an Incubator built on scientific plans and has all the latest improvements. Every machine guaranteed. "Facts From Experience" and Catalog for the asking. Address Dean's Place, 2509 Central Avenue, Los Angeles.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma. Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original Dry Chick Feed. All others are worthless imitations. Chamberlain's Perfect Chick Feed was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.
GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; CHAS. H. NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

Sending a Train Load of Coulson's Poultry Foods Down in Central California, San Joaquin Valley

Scene at Petaluma Freight Depot—Sending a train load of 12 full cars loaded with Coulson's Egg Food and Coulson's Special Chick Feed down into Central California.

A. R. Coulson, president and manager of the Coulson Poultry & Stock Food Co., has this year traveled all over the state of California in the company's automobile. The following is a clipping from the Petaluma Argus:

"MADE AN AUTOMOBILE TRIP TO MEXICO.

"A. R. Coulson returned Sunday afternoon from San Francisco. He arrived in the metropolis from Mexico, after an absence of ten weeks. He reports a fine trip. During his long trip he did not have an accident with the automobile. Mr. Coulson is the first person who has driven from San Francisco to Mexico in an auto, the distance being about 2000 miles. The auto will arrive tonight from San Francisco."

About April 10th, Mr. Coulson accompanied by one of the salesmen, started on their long automobile trip. On their trip down along the coast, from San Francisco to San Diego, they took orders for over 500 tons of Coulson's Egg and Chick Feeds, about 35 carloads. Afterward, in the month of July, another 100 tons was sold in Humboldt County, and on their trip through Napa and Solano counties, another 100 tons was sold. In September, on their trip from Sacramento to Redding, up the Northern Sacramento valley, seven more carloads, and on the last trip in October, Mr. Coulson, accompanied by Mr. J. M. Bull, sold twelve carloads more in the San Joaquin Valley, as follows:

Simon Newman Co., at Newman, 1 car; Dos Palos Colony, Rochdale, Assn., 1 car; Moore Plate Co., Madera, 1 car; Fresno Rochdale Co., 2 cars; Kutner, Goldstein Co., Selma, 1 car; Kutner, Goldstein Co., Hanford, 1 car; Linder Hardware Co., Tulare, 1 car; H. Frame and the Rochdale Co., at Porterville, 1 carload; Goldstein & Iseman, Visalia, 1 car; Burum & Burum, Dinuba, 1 car, not less than 15 tons in a car.

Each of the 70 firms that handle Coulson's Foods in carload lots, wholesale it to a number of other stores, so that there are probably 600 or 700 stores on the coast that sell Coulson's Egg Food and Coulson's Chick Feed, so that you should be able to get Coulson's poultry foods at some store in every town.

Mr. Coulson visited nearly every poultry raiser or farmer that raises poultry, having talked with over 5000 of them this summer, and it was always noticeable, that where the poultry was fed on Coulson's Foods, the fowls had such bright red combs (showing healthy liver). Their plumage was even and glossy, they were spry, active and healthy, and the owners were satisfied that feeding Coulson's Balanced Rations was far better than ordinary grain feeds.

Mr. Coulson believes in small profits and large sales. He also believes that the best of everything is the cheapest in the end. Consequently, only the best grade of feed and ingredients is used in preparing Coulson's Feeds.

There are many firms that imitate Coulson's Poultry Foods, and which they offer at a cheaper price, but they do not contain as many of the expensive and result-getting articles. In spite of all the cheaper imitation foods offered, there is undoubtedly more of the Coulson's Food sold, than all others combined.

You will never know how good COULSON'S POULTRY FOODS are until you see some of the imitations.

A. R. COULSON,

President and General Manager of Coulson Poultry & Stock Food Co., now incorporated at $100,000, and soon to be increased to $150,000.

So when you buy a chicken ranch, the first thing you want to do, is to find out where you can buy COULSON'S FOODS, for chickens are like machines, and if you treat them right, and feed them on COULSON'S FOODS, they will make money for you.

THE COULSON COMPANY'S AUTOMOBILE.

With which Mr. Coulson this year traveled all over the state of California on business.

One poultryman at Hanford has a flock of 350 hens, and for over a year they have been fed on COULSON'S EGG FOOD. At present, these hens are laying two cases of eggs per week, which are sold at Berkeley for 50c per dozen. The cost of feeding these hens Coulson's Egg Food is less than $4.00 per week. Amount received for eggs, $30.00 per week.

Another large poultryman near Petaluma has 3200 laying hens, which have been fed on COULSON'S EGG FOOD for the past three years. They are fed two sacks of Coulson's feed a day, and they are laying now 1200 eggs a day, which means 600 eggs from one sack of Coulson's Egg Food, or $20.00 worth of eggs from less than $2.00 worth of feed. You could afford to feed your hens Coulson's Egg Food and make a profit even if it cost twice as much as it does.

READER, YOU SHOULD FEED YOUR HENS COULSON'S EGG FOOD EVERY DAY.

They need it in their business.

Coulson's Egg Food is a rich feed, composed of about three-fourths ground grains or mill feeds, and one-fourth of extras, like Dried Blood, Cooked Meat, Fresh Ground Bone Meal, and other things, all thoroughly mixed, ready to feed the chickens and make them lay.

Ask your dealer about it.

COULSON'S EGG FOOD For Hen.

COULSON'S SPECIAL DRY CHICK FEED for little chicks.

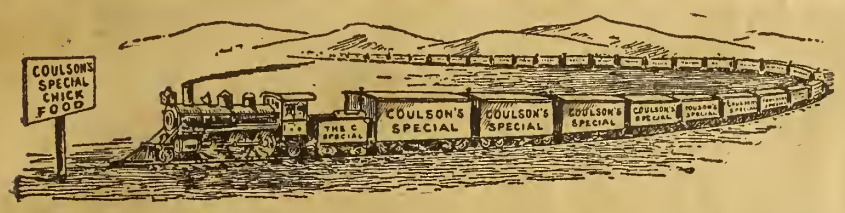
Manufactured by

Coulson Poultry & Stock Food Co.

Petaluma, California

Nothing Succeeds Like Success

325 car oads of Coulson's Poultry Foods (Coulson's Egg Food and Chick Feeds) sold in California during the year 1905. Enough to make a solid train load two and one-half miles long requiring 20 engines to pull it. Over 125 carloads shipped by steamer.



BALANCED FEED RATIONS

Intelligent feeding of Poultry and Stock is the one way to make it pay. You have heard that some foods furnish fats, other foods make muscle and tissue, and others make bone, shell, etc. You know that most foods contain one or more of these elements, but no feed would contain them all in the proper proportions.

Now, by understanding the different values of different feeds, is where the secret of success comes in. The Coulson Poultry & Stock Food Co. makes a specialty of the feeding problem. Under the care and instructions of A. R. COULSON, the Chicken Doctor, they prepare special mixed feeds, or properly "balanced" rations for poultry, which are mixed with the right ingredients, in the right proportions to make poultry pay.

First, they make a Special Chick Feed for feeding baby chicks. It is composed of tiny pieces of cracked grains, specially selected small seeds, baked hearts in meal, pin-head size, Steel Cut Oat Meal, Millet Seed, and other things, each in the right proportion to keep the little chicks healthy and make them grow.

The COULSON POULTRY & STOCK FOOD CO., occupying a building 70 by 120 feet, and also several smaller buildings on the property at 730-736 Main street, Petaluma, employing about thirty hands, are engaged in the mixing of the various feed stuffs, animal meals, beef scraps, dried blood, ground bone, seeds, etc., into the best properly balanced mixed feeds, especially adapted for certain results.

The materials are brought in large quantities from all parts of the world. Mill Feeds from Washington and Oregon and various parts of California, Oat Meal in carload lots from Illinois and Kansas, Millet Seed in carload lots from Minnesota, some from Germany, Hemp from Germany, Canary Bird Seed, some imported, Peppers from Japan, Rice from China and Japan, Flaxseed from Oregon, Ginger from Africa and Japan, Corn from Nebraska, etc.

$100,000

PAID TO THE ARMOUR PACKING CO.

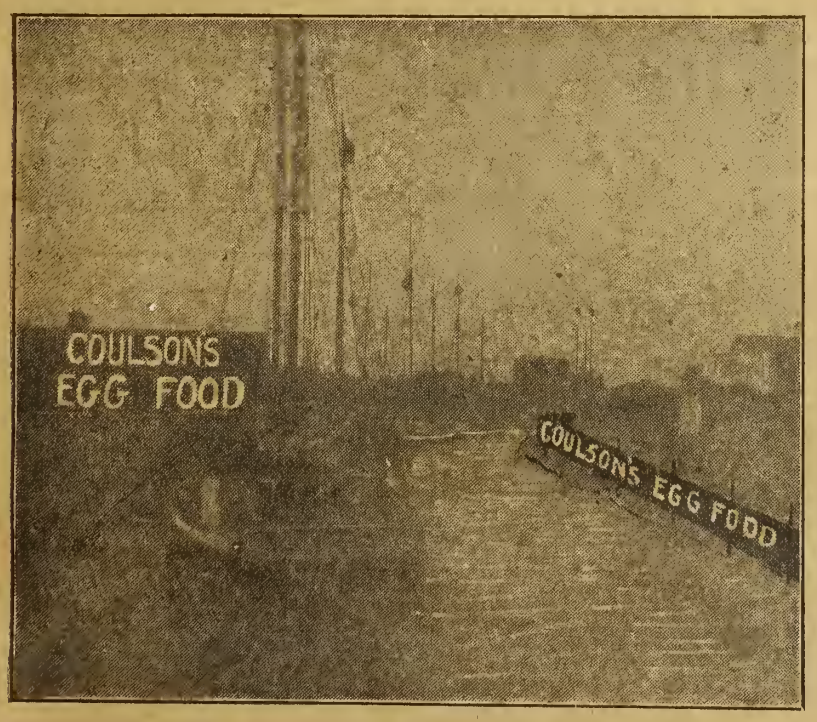
For our Animal Meals, which includes Dried Blood Meal, Meat Meals, Beef Scraps, etc., which enter into our Poultry Foods and other balanced rations, we have an annual contract with the Armour Co., with their vast works at Chicago, Kansas City, and South Omaha, employing in all, an army of 25,000 people. By this contract we have the exclusive sale for the Pacific Coast of their goods in our line.

This Meat Meal is made from **Hearts** and **Livers,** which are kept separate from all the rest, for our own trade. After being thoroughly cooked, they are dried, then ground and screened into different sizes and sacked, and shipped to us in carloads of 20 to 50 tons.

The Bone Meal, Animal Charcoal, etc., (made from fresh ground bones only), are prepared for us at San Francisco, by the largest concern of the kind on the coast, giving us the benefit of the latest improvements in machinery and methods of preparations. In the process of manufacture of Bone Charcoal Bone Meal, etc, great care is exercised that none are lost.

All these ingredients are mixed together in proper proportions, all ready to feed to the chickens.

If you are interested in poultry, send us 4 cents to pay postage on our 80-page Catalogue and Poultry Account Book free.



Schooners Bringing Food to and From Petaluma Where Coulson's Egg Food is Made.

SEVENTY DIFFERENT FIRMS IN CALIFORNIA BUY COULSON'S POULTRY FOODS IN FULL CARLOAD LOTS.

The following dealers purchase COULSON'S FOODS in full carloads lots, thus getting the benefit of special car freight rates; therefore they are able to sell COULSON'S POULTRY FOODS at lowest prices:

GERMAIN SEED CO	Los Angeles, (this year)	24 cars
Sperry Flour Company, 3 places	Sacramento, Santa Cruz, San Luis Obispo	20 Cars
Channel Commercial Co.	Ventura, Santa Barbara	10 cars
San Diego Feed Mills	San Diego	10 cars
J. D. Hennessy & Co	Portland, Oregon	4 cars
Tillson & Co	Salem, Oregon	
G. M. Connick & Co	Eureka, Cal.	
Donaiti & Petar	Bolinas, Cal.	
Hammond & Yardley	Stockton, Cal.	
F. F. Smith & Co.	Sacramento, Cal.	12 cars
Roderick McRae	Pleasant Grove, Cal.	
White, Cooley & Cutts	Marysville, Cal.	
Jas. H. Jones & Co.	Chico, Cal.	
Cone & Kimball	Red Bluff, Cal.	
Markofer & Latta	Elk Grove, Cal.	
Fresno Rochdale Co.	Fresno, Cal.	5 cars
Kutner, Goldstein Co.	Selma, Cal.	4 cars
V. E. Hill	Hanford, Cal.	3 cars
O. H. Allison	Elmira, Cal.	3 cars
Hilborn Bros.	Suisun, Cal.	3 cars
Stoddard Milling Co.	Napa, Cal.	5 cars
Rossi & Anderson Co.	St. Helena, Cal.	
C. A. Stevens Co.	Calistoga, Cal.	
J. S. Bolchor & Sons	San Mateo, Cal	
Horace Nelson	Half Moon Bay, Cal.	
Fatjo Bros.	Santa Clara, Cal.	
The City Store	San Jose, Cal.	9 cars
Mason & Triggs	Morgan Hill, Cal.	
San Martin Union	San Martin, Cal.	
Geo. P. McNear	Petaluma, Cal.	8 cars
Golden Eagle Milling Co.	Petaluma, Cal	5 cars
Scott Grocery Co.	Santa Rosa, Cal.	5 cars
K. M. Thomas	Gilroy. Cal.	3 cars
Stevens & Harrison	Hollister, Cal.	6 cars
The Abbe Co..	San Juan, Cal.	
Milks, Adamson Co.	Watsonville, Cal.	6 cars
F. Blackie, Jr.	Salinas, Cal.	8 cars
Preble Grocery Co.	Monterey. Cal..	
Geo. F. Bell	Paso Robles, Cal.	3 cars
Wahrlich, Cornett Co	Soledad, Cal.	
Russell Robinson	Arroyo Grande, Cal.	5 cars
D. D. Mead..	Nipomo, Cal.	
A. McNeil	Santa Maria, Cal.	4 cars
Freeman Bros.	Santa Maria, Cal.	
Santa Paula Co-Operative Assn.	Santa Paula, Cal.	
Prince Feed and Fuel Co.	Santa Ana, Cal.	6 cars
Griffiths Bros. Milling Co.	Covina, Cal.	
F. H. Paine Feed and Fuel Co.	Pomona, Cal.	5 cars
Upland Feed and Fuel Co.	Upland, Cal.	3 cars
Globe Mills	Colton, Cal.	4 cars
Woodward & Co.	Downey, Cal.	
Slocum & Core	Fair Oaks, Cal.	
Stevenson Bros. Co.	Escondido, Cal.	4 cars
L. M. Lasell Co.	Martinez, Cal.	4 cars
John Pierson	Walnut Creek, Cal.	
Seeley & Titlow Co.	Arcata, Cal.	
L. B. Compton...	Eureka, Cal.	4 cars
Aggeler, Morrison, Hansen Co.	Ferndale, Cal.	
H. G. Williams	Oakland, Cal.	6 cars
A. J. Hankins	Colusa, Cal.	
Woodland Rochdale Co.	Woodland, Cal.	
Moore Plate Co.	Madera, Cal.	
Riverside Milling & Fuel Co.	Riverside, Cal..	
Goldstein & Iseman	Visalia, Cal.	
Kutner, Goldstein Co.	Hanford, Cal.	
Linder Hardware Co.	Tulare, Cal.	
Burum & Burum	Dinuba, Cal.	
Dos Palos Rochdale Co.	Colony Center, Cal.	
Simon Newman Co.	Newman, Cal.	
Bailey & Sons	Salt Lake City, Utah	

There are about 70 distributing agencies where Coulson's Egg Food and Coulson's Chick Feed are handed in carload lots. There are more of COULSON'S Poultry Feeds sold in this state than of all other kinds combined.

Coulson Poultry & Stock Food Company

730-732-734-736 Main St.
Petaluma, California

Toulouse Geese

75 head of Fine Stock to select from. Write H. O. Higgins, Box 741, Riverside, Cal.

WHITE LEGHORN COCKERELS

A few pure bred cockerels from heavy laying strains, $2.50, $3.50 and $5.00 each.
L. W. Clark, R. F. D. 4, Petaluma, Cal.

RHODE ISLAND REDS

Fine large stock, heavy layers, best of broilers. Eggs, $1.50 per setting.
J. O. Setzer, Northrup and Pedro Sts., San Jose, Cal.

Blue Andalusians For Sale

Several pairs and trios of handsome Blue Andalusians. Exhibition or utility birds. Eggs for hatching, $2 for 15. Mrs. J. S. Duff, 3145 S. Hoover St., Los Angeles, Cal.

HIGH-PRICED EGGS

Every one would like them to sell, and can just as well have them. Security Poultry Food will make hens lay. WE GUARANTEE IT. Ask our dealer in your town. He will back our guarantee.
Security Stock Food Co. Minneapolis, Minn.

SQUAB BREEDING

and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.
THE OLIVE PIGEON LOFTS
P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS
EXCLUSIVELY
Send for 16-page 1905 Catalogue
H. R. CAMPBELL
Box O PETALUMA, CAL.

Eggs For Sale

Imported direct Indian Runner Ducks, prize winners in England. First prize winners at Haywards, Sacramento and Portland Lewis & Clark Exposition. Eggs, $3 for eleven.
Buff Orpington Ducks, prize winners.
Mrs. M. E. Plaw - Fruitvale, Cal.

BUFF ORPINGTONS and BARRED PLY. ROCKS

Pure Bred and High Types. Eggs, $2.00 per 14; 3 settings, $5; $7.00 per 100. Males, $3.50 to $5.00. Trios, $7.50. Pens, $11.00.
B. M Stone, - R. F. D. 6, Fresno, Cal.

Breeding Cockerels

WHITE LEGHORN BLACK MINORCA
One hundred. Good Stock. A few pens of choice stock for sale. Write for prices
Avenue Poultry Yards Ventura, Cal.

$12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
GEO. H. STAHL, Quincy, Ill.

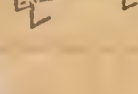
WHITE LEGHORN CHICKS, 10 Cts. WHITE PLY. ROCK CHICKS, 12½c.

Both from good stock and in good healthy condition. The W. P. Rock males where I got my eggs are from prize winning stock. Leghorns are selected and have good markings. This is a fine time to start young chicks, after the rain; yards purified, green growth coming and mites and lice at a disadvantage.
Wm. A. Green, Box 401, Anaheim, Cal.

ALBERS' BLACK MINORCAS
Still Lead
——Circular Free——
GEO. R. ALBERS
4849 MARMION WAY
LOS ANGELES, CAL

Mountain View Poultry Ranch

S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.
Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.
Mrs. J. L. Updyke - Fullerton, Cal.
Successor to Jacob Kreger



30 DAYS TRIAL
Buy From Our Factory—Save One-Third
PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. 10 YEARS' GUARANTEE
Cal. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

MAKING HENS LAY.

It has been demonstrated beyond a question of a doubt that hens can be made to lay from two to three times the usual number of eggs. Experiments have been made on fowls for a number of years and a food developed that is absolutely certain to make hens lay. It is no wonder worker and won't do this in a day or even in a week, but any flock of hens can be put in condition in from two to four weeks; the time depending on the care they are receiving, feed, age, and whether they are just beginning to molt, at present molting, or through molting. It has been proven time and time again that within a month's time a flock of hens can be put in paying condition and show a handsome profit over the cost. In fact, the Security Stock Food Co. absolutely guarantees to make hens lay and their product is sold on a broad and liberal guarantee stating that if you are not absolutely satisfied, no matter from what cause, your money will be refunded. They take all the risk and it is well worth a trial under these conditions.

EGG-EATING HENS.

It is not natural for a hen to eat eggs, though when once she becomes converted to the delicacy she never forgets it until a change of condition occurs, but she may be so situated as to be unable to eat them. The best method is to make a nest out of a soap box, one end of the box being open, so as to compel her to walk into the nest. The box should be raised a sufficient height from the floor so that she will be unable to reach the eggs in the nest from the ground. The nest box should not be too large. The hen will go on the nest, but her body will protect the egg, so she will not have room to peck them. Egg-eating sometimes is cured by filling egg shells with mustard paste, which makes the work disagreeable. The best way is to allow no eggs to become broken in the nest. If the hens are not brought in contact with eggs that are broken they will never learn to eat them. Fresh egg shells should never be thrown to the fowls, as a hen that learns to eat eggs will set an example to the others, and as one of them may begin on egg shells it is better to avoid feeding them to the flock.

Snuffles, or running at the nose, is found in most flocks and is only the effects of a cold. The nostrils will be encrusted with matter producing the snuffling sound. If caused by exposure, remove the cause by keeping the fowls warm and wash the nostrils with castile soap and water. Feed soft food, and usually they will come out all right.

Giddiness in fowls usually indicates too much fat and blood. The chief symptoms are twisting the head, carrying it on one side, going around in circles, running against objects, etc. The remedy is to hold the fowl's head under a stream of cold water for a short time. Give them a dose of Epsom salts and feed lightly for a few days.

This is the time of year to see that your chicken houses are in good shape for the cool weather that is sure to come before long.

CUT UP SCRAPS.

Do not feed table scraps in chunks, but cut them up into small bits of a size suitable for a hen to swallow. Then each hen will have a chance to obtain its share at the feeding trough. If given as they are gathered from the table, the more masterful hens will secure the largest pieces and make good their right to their possession. The others must be content with their leavings, and the consequence is that some of the hens will have a very light breakfast. Feeding, which permits some hens to be gorged, and others left with half a meal, is bad feeding. The plan is particularly bad in feeding table-scraps, as harmful results are sure to follow the habitual eating of this kind of food to the point of stuffing. Feed table-scraps only once a day, preferably in the morning, and then reduce them to a form that will insure even distribution to all the flock. Do not feed scraps in quantity which will cause the hens to turn away from the troughs with bulging crops, for you can feed them too much of this rich kind of food.

SCALY LEGS.

Observe the legs of your young chickens and see if they show any signs of scaly-legs. This is a troublesome diesase to get rid of when it has become thoroughly established in a chicken yard, but it is easily overcome at the beginning. Anoint the legs with lard or kerosene oil, mixed with a few drops of carbolic acid. Repeat the treatment once a week until all signs of the disease disappears. It is a tedious operation but it must be gone through with if the fowl are to be saved from this ugly disfigurement. If the disease was present in the house last year, and this is now occupied by your young stock, the latter are sure to become affected, unless in the meantime the house has been thoroughly cleaned and renovated.

Scaly-leg does not injure the fowl, otherwise than spoiling its appearance. If the fowls are to go on exhibition, however, it militates against them considerably and will lower their value even if sold for market. But there is no excuse for its continuance in stock, for it is one of the diseases which is preventable.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.
CAPTAIN MITCHELL SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

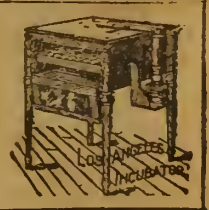
WHITE CREST RANCH

S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS
No more stock for sale. Eggs are running 80% fertile. I am booking orders for future delivery, also supplying small orders on short notice. Get your orders in early, as there is going to be a big demand this season.
WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100
My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.
W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114

Mission View Poultry Ranch

MY SPECIALTIES:
WHITE WYANDOTTES
¼ WILD MAM. BRONZE TURKEYS
BUFF COCHIN BANTAMS
The original Adobe Incubator, capacity 3000 eggs. Adobe hut and cold brooder 360 feet long.
Mrs. G. D. Hubbard, Box 422, San Fernando, Cal.

SUCCESS
IS ATTAINED WITH
LOS ANGELES INCUBATORS
SEND FOR CATALOGUE
LEE'S LICE KILLER EGG MAKER | LARGEST POULTRY SUPPLY HOUSE IN THE U. S.
HENRY ALBERS 315 S. MAIN ST. LOS AGNELES



EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.
YOUNG CHICKENS AND TURKEYS WANTED
We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.
BAMBOO POULTRY RANCH AIKEN & CO. Props. GLENDALE, CAL.

Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods
Emery's "B. B. & B."
THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlendt & Co. San Francisco, Cal.

Caponizing Set

Double Your Profits by Caponizing.
Complete with instructions, $2.50, Postpaid
STOCKMEN'S SUPPLY CO.
FRESNO, CALIFORNIA

The Stockton Incubator

Is now manufactured under new management and is in every way put up as a first-class machine. Our 1906 model is a perfect working incubator, economical to run and gives a fine hatch.
Winner of silver medal at Pan-American, also medal at California State Fair. Write for circular and information.
Stockton Incubator Co.
Marshall & Barnes, Props. Stockton, Cal.

Queries and Suggestions

MUSHROOMS.

Editor Cultivator—I am very much interested in growing mushrooms and mean to give it a fair trial. I saw in your paper where they had been successfully grown as an experiment.

1. How shall I make my beds?
2. Where can I get the spawn?
3. When is the best time for mushrooms?
4. What is the market price?

I hope I am not asking too much, and will await a speedy reply.—Mrs. M. E. R., Santa Barbara.

Though the growing of mushrooms has rapidly increased during the past five years, very few houses have yet been built for that sole purpose in this country, the supply still coming largely from beds formed under the benches of greenhouses, in cellars and outbuildings, or other odd corners. As the mushroom grows best in darkness, the essential conditions of culture being a friable soil full of fermenting vegetable matter, moderate moisture and a steady temperature between 50 and 65 degrees—it is apparent that an excavation in the soil of the proper form and size, covered with a tight roof, will best meet the requirements. Probably the least expensive form of mushroom house is modeled after the ordinary "even-span greenhouse, substituting a board and paper, or shingle roof in place of glass or sash.

The material used for making beds must contain nitrogen in the form of a nitrate, or salt formed by the union of nitric acid with a base, as in a form of ammonia. The material used may be fresh manure from horse stables, with soil or well rotted manure mixed together in proportions in accord with the system of culture adopted. The general system, in use by many, of mixing material, is fatal to a good, all-round crop, as the bed formed under the old system has a very complex service to render. First, it is the home of the spawn; second, it must furnish the necessary warmth for a healthy and free growth of spawn; third, it must supply the general food for the mushroom's development. So there can be no doubt that if any of these conditions fail, a food crop cannot be gathered. The material may be two-thirds fresh manure with the straw left in, soil and well rotted manure, well mixed together and put down in layers. In using soil,care must be taken to half lift and shake slightly the material, so as to let the soil filter down through the straw; this will prevent burning or drying out, and the bed will need less water. The fermentation will be slight and the decomposition of the mass slow, which is one of the chief features of keeping up a constant supply of food for mushrooms. Keep adding layers until you have a depth of two feet or more. The material should be kept pressed down until it becomes firm only, and the bed will be ready in a few days to spawn.

Make mushroom beds early in September, bearing in mind that the best results come from a slow and long fermentation. Beds that dry or burn out do not pay. Make no beds less than fourteen inches in depth when packed down.

If growing in pits, the first operation is to dig out a trench five feet wide and fourteen to sixteen inches deep in center, sloping down banks to center. Mix manure and soil together and form a bed in trench, high enough when completed to be nine inches above ground level when well tramped down. Now take 3x4s and form rafters for a span roof, allowing the north side rafter to be eight inches longer than on the south, so as to overlap. Take the boards and place them lengthwise, overlapping, like a shingle roof, to turn water. The north side boards may be nailed fast and the south left movable, leaving on south side six inches of space at top for ventilation, where the overlapping roof keeps weather out.

The only attention the bed will need is a slight watering when the crop is cutting; and the pit should be covered with short litter or long manure to keep off sun. Such a bed may be used more than one year; several years by adding four inches of new soil and manure which has been in compost, spreading evenly over the surface of the bed. The beds should not be allowed to get water soaked, and ground must be graded to turn all surface water.

The conditions suitable to mushrooms are moist to a perceptable degree, the surface soil kept damp at all times, watering moderately with clean water of 80 degrees temperature. Anyone having space outside can raise good mushrooms in this way with little expense for material, labor, etc.

The market price at present is very high, good mushrooms retailing for 50 cents per pound. The spawn may be procured from any seed house advertising in our columns.

DIARRHOEA IN CALVES.

Editor Cultivator.—Will you tell me what is the matter with my calves? When they are from twelve to twenty-four hours old they take the scours and die in a few hours. The cows run in the stubble field where I cut oat hay this season. There is no green grass. They are fed oat and wheat hay (very little wheat), and bran is mixed with the hay after it is cut through a feed cutter, then dampened. They have good well water and all the salt they will eat. Please answer through Cultivator.—G. W. D., Santa Rosa.

Your cows are propably eating the rust on stubble known as Tilletia Caries, which grows chiefly on wheat and may be found with bran or meal. It causes diarrhoea and in weak stomachs may result fatally. Your calves doubtless receive this poison from the cows. Use remedies heretofore given in these columns. A raw egg three times a day will tend to heal the stomach and intestinal organs.

CURE OF COUGH OR HEAVES.

Editor Cultivator.—Mr. T. A. Smith of Azusa suggests for the good of Cultivator readers a sure cure for a horse cough or even heaves in mild cases. It is a table spoonful of ginger with grain from one to three times a day, owing to severity of the case. Cures should be effected in from two days to a week.—H. G., Los Angeles.

EGG PLANT.

Editor Cultivator.—Can you tell me what is the cause of my egg plant not growing larger than sample? (Sample not sent.—Ed.) Are they perennials or annuals? Do they bear fruit first year if perennials?

They have good rich soil which produced choicest of other garden vegetables, such as cabbage, lettuce, beets, peas, beans, corn and tomatoes. This is my first experiment with the plant, and should like to learn more of it.—Mrs. F. K., Smith Creek.

Egg plants need a warm location, plenty of water, yet good drainage, and good cultivation so that at no period the growth is checked. They often set too many fruits which must be pinched off if larged sized fruits are desired. The plants should also be pinched back occasionally to keep them compact and well balanced.

WALNUTS FOR SALE.

Editor Cultivator.—I have about 1,200 pounds of No. 1 softshell walnuts, unbleached, I would like to sell. I see you quote them at 14½ cents. Please inform me where I can get 12 cents. Will deliver them in Los Angeles at that price.—W. N. P.

Write Percy R. Wilding & Co., Los Angeles.

SWEET POTATO PIE.

Editor Cultivator.—Can you give me the formula for making a sweet potato pie?—A. S. H., Pomona.

After boiling potatoes until thoroughly cooked, strain through fine sieve and make same as pumpkin pie.

Milking Goat.

Editor Cultivator: Will you kindly give directions for the care and feeding of a milk goat? And oblige.—A. E. W., Pasadena.

Answer.—Feed the goat on rations of alfalfa and barley hay with a little barley grain. Oats are better for milk. Do not over feed at any time. The goat to do well should always be allowed to run considerably. Water the same as a cow.

DYNAMITE IN TREE PLANTING.

The most practical way to prepare a site for planting fruit or ornamental trees on heavy clay, hard, dry or even wet, soggy soils, is by the use of a small charge of dynamite for each tree. I have practiced this method for a number of years with grand success at an expense not to exceed ten cents for each tree.

I began by shoveling away the earth where the tree is to be planted, from a space of 3 to 5 feet in diameter, and from 10 to 20 inches deep, or until I reach the hardpan or drv. hard earth. In center of this excavation I make a hole about two feet deep, with a crowbar or post auger. At the bottom of this I place a small portion of a stick of dynamite, to which is attached a cap and fuse. I tamp clay in firmly above the dynamite and set off the charge.

The explosion will loosen and shatter the most compact clay bed or dry hard substance that underlies any soil from five to ten feet in diameter, the depth of course depending upon the amount of dynamite used. In ordinary cases two to four ounces is sufficient to make a splendid tree bed. It does not throw the soil completely out, but loosens and mellows it so the roots and the moisture will penetrate to a greater depth.—A. D. B.

If You Knew You Could Double Your Crop and Enhance Its Quality by Securing Plump, Fertile and Sure-Growing Seed, You would Do It Immediately.

If you will favor us with an order for any of the following sure-growing vegetable seeds, which we are offering at prices within the reach of all, your hope will be realized:

ONIONS—Prize-Taker. Pkt, 5c; oz. 10c; 1-4 lb, 40; lb, $1.35.
LETTUCE—Curled Simpson. Pkt, 5c; oz, 10c; 1-4 lb, 25c; lb, 75c.
CABBAGE—Extra Early Eureka. Pkt, 5c; oz, 10c; 1-4 lb, 35c; lb, $1.25.
BEETS—Improved Blood Red. Pkt, 5c; oz, 10c; 1-4 lb, 20c; lb, 50c.
CARROTS—Ox Heart. Pkt, 5c; oz, 10c; 1-4 lb, 20c; lb, 50.

If you plant these seeds you will get results in bounteous crops which will prove a pleasure and a profit.

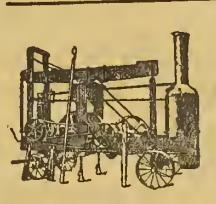
F. Gilman Taylor Seed Co.
BOX 14, GLENDALE, CAL.

A Sharp Razor
Makes Shaving Easy

It is a pleasure to shave when your razor is sharp. With "Every Man's Dry Hone" you can give your razor a keen cutting edge with a few strokes. It is a perfect hone, made for home use, and guaranteed to give satisfaction or money refunded. No water or oil necessary—self-lubricating. Always ready.

Mailed on receipt of $1.00. Send in your order now, while you are thinking about it. Be ready for your next shave.

REDLANDS HONE CO. 70 Orange St., Redlands, Cal.



WELL DRILLING MACHINERY

Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.

Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

WOODMANSE STEEL WINDM LL
BEST MILL ON EARTH

On account of its removable bearings will pump more water than any mill on earth.

F. H. OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

THE RAPP FENCE

The Most Practical, Durable and Lowest-Priced Fence on the Market.

THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St., New York
Write for Illustrated Booklet

THE WM. H. HOEGEE CO. INC. WE FOOL THE SUN 138-142 S. MAIN ST. L.A.

HOEGEES' GREET YOU!

FARMERS
ORCHARDISTS
POULTRYMEN
RANCHERS

We wish you all a

MERRY CHRISTMAS

and a

HAPPY NEW YEAR

We thank you for your patronage in the past. We shall endeavor to serve you better than ever in the future.

MANUFACTURERS AND DEALERS IN
FUMIGATING & CURING TENTS, CANVAS, IRRIGATING HOSE, KHAKI SUITS, LACED BOOTS, GUNS, AMMUNITION, FISHING TACKLE, SPORTING GOODS

The Wm. H. HOEGEE CO.
Incorporated
138-142 So. Main St.
EX'S 87

A PSALM OF FARM LIFE

Tell me not in broken measures
  Modern farming does not pay
For the farm produces chickens,
  And the hens—do they not lay?
Eggs are high and going higher,
  And the price is souring fast;
Every time we go to market
  It is higher than the last.
Not a coop but it produces
  Every day an egg or two;
So each farmer gains his million,
  Even though his hens be few.
Every egg is very precious,
  And the hens are held in awe;
When a hen begins to cackle,
  Then the farmer goes "Haw, haw!"
In the broad and busy farmyard
  Struts a rooster now and then,
But the shrewd, be-whiskered farmer
  Only notices the hen.
Trust no rooster, howe'er showy
  Be the feathers in his tail;
Pay attention to the biddies
  And your wealth will never fail.
Lives of farmers all remind us
  We may roll in wealth some day,
If we hustle to the market
  With the eggs our pullets lay.

—Chicago Chronicle.

The Widow and the Boy

"Love," said the widow sententiously, "is like a generous wine—both are delightful if taken in moderate quantities, but in each an excessive indulgence will produce the same disastrous after-effects."

"Ah," said the boy, regarding her thoughtfully, "the parallel is, no doubt, good, but I fancy I have heard something like it before."

"That," said the widow, with a pretty little pout, "is the disadvantage of living after Selwyn, Walpole and Sheridan. There are no good things left to say. Epigrams are no longer spoken—they are carefully collected, indexed and entered into notebooks by novelists, to be served up retail by them afterward at so many epigrams per page in their novels."

The boy continued for an instant longer to regard the widow with something of a critical air. The result of his survey confirmed him in the conviction that she was quite the most beautiful woman he had ever seen. It was, therefore, with an almost startling precocity of discernment that he remarked after the last little pause:

"How clever you are!"

The widow, for all her worldliness (and she prided herself a good deal upon this) colored with gratification at this artless tribute to her intellectual charms.

"Do you think so?" she said.

"Adorably clever," he replied. "And I," he added, with a singular lack of justice, " and I am so stupid."

"No," said the widow, in the judicial tone of one balancing evidence, as she looked at the boy over the edge of her fan. "I don't think you are stupid—I should not call you stupid in the least. Most young men—very young men—are simply appallingly stupid, but you are really an exception to the rule. You don't, for example, try to talk and say clever things, and, of course, fail ignominiously. You are content to listen, and when you hear clever things said—by others—you can appreciate them."

"Only when they are said by you," corrected the boy, bending a little toward her.

"That's rather nice," said the widow, critically.

The boy smiled to himself.

"How would you recommend it to be taken?" he asked, after another little pause, during which the dance music from the ballroom in the distance floated to their ears with a pleasantly subdued sound that harmonized well enough with the subdued light of the conservatory and the confidentially subdued tone of their conversation.

The widow, whose thoughts at that instant were divided between the invention of a fresh epigram and the undeniably handsome profile of the boy, roused herself with a little start.

"Taken," she repeated, fixing her large blue eyes on the boy's face in mute interrogation. "Recommend what to be taken?"

"We were speaking just now," said the boy, "or rather you were, of a certain generous wine, or was it something else?"

The widow laughed—another of those little, low laughs which seemed to the boy indefinitely more musical than the strains of the band in the ballroom.

"I don't think," she said slowly, "I don't think I should recommend it to be taken—at all."

"Ah," murmured the Boy, "that generous wine! And why not?"

"There are always the after effects, you see," mused the Widow dreamily."

"If taken in immoderate quantities," observed the boy. "I think that was what you said?"

"It is so difficult," explained the Widow, "to confine oneself always to—moderation. The young man and untried palate——"

"Yes," said the Boy as she paused.

"Is easily overcome. Love is a powerful intoxicant."

"Like the nectar of the gods!" sighed the Boy. "But to gain heaven——"

"Remember the after effects!" interrupted the Widow, warningly.

"I was going to say it were worth risking them," he concluded.

"Perhaps—yes, perhaps," murmured the widow, stealing another glance at the boy's face.

"And you—you, too, would run that risk?" he asked, with sudden emphasis.

The widow sank back into the cushions of her chair. For a widow—and a worldly widow, her heart had begun to beat strangely fast. Still, she did not forget that she was a widow—nor the didactic obligations attaching to that role.

"I?" Her laugh had something of nervousness in it. "Oh, no, I am too old for experiments in new sensations!"

"You forgot, too," she went on hurridly, "that I am a widow—and, therefore a dangerous person to—to suggest experiments of this kind to! Do you not remember Mr. Weller's excellent advice on the subject of—widows?"

"Yes," said the boy, camly. "And I agree with it. Widows are a perpetual menance to the peace of man. That is why I want to remove you from that pernicious sphere of influence in the future."

"To remove me from——" The widow stared at the boy in momentary bewilderment, and then she caught her breath by the effort to give a little laugh, which ended in an odd little hiccough instead.

"Then you admit," cried the boy triumphantly, "that it would be a new sensation?"

"You jump to conclusions too quickly," was the best rejoiner she could find to make; and the weakness of it was patent, even to the boy.

The relative positions of herself and the boy seemed somehow changed during the last three minutes, and she was fast losing her grip of that sense of mental and worldly superiority that had hitherto sustained her in her didactic attitude toward him. In a desperate attempt to regain her lost prestige she took refuge behind another epigram.

"The very young man is often bold from mere ignorance," she remarked, sagely.

"Then you shall teach me to be timid!" he rejoined, with disconcerting aptitude.

The widow realized that the position was no longer tenable. She sought for a means of escape that might yet enable her to effect a compromise with her self esteem. But the boy pressed his advantage home.

"I swear," he went on, passionately, "that I will learn that lesson from no other teacher—that I could learn it from no sweeter one!"

"You are so young—so very young," she faltered, "to learn."

"Young!" The boy uttered a joyful laugh. "Yes—I am young—but that is no crime in love, whatever it may be in politics! Or, at least," he added, "if it is, we are fellow criminals—you and I!"

"I am much older than you," said the widow, with dignity, and quite ignoring the implication in the boy's last words.

"How old are you?" the boy demanded, gazing at her unwinkingly.

"Don't look at me like that, please! * * * I am 23, since you are impertinent enough to ask me my age!" she retorted.

"And I," he replied, "am 22."

"I? Really, you are——! Well * * * "Really," exclaimed the widow, opening her eyes upon the boy in wonder. "I should never have put you down at more than 20."

"Fact!" said the boy. "Twenty-two. Not much in it, after all, is there?" he added, with cheerful candor.

"Age," said the widow, loftily, "is to be measured by experience—not years."

The aphorism restored her to a momentary sense of intellectual superiority once more. The boy conceded it with a shrug of well-simulated despair.

" * * * To be both clever and beautiful!" he murmured. "And," he added, after an instant's pause, while his eyes dwelt upon the widow with unmistakable admiration, "so young."

"Young!" exclaimed the widow, drawing herself up.

"It is only the young," he observed, "the very young, who can afford to pretend to be old! You are young enough to pretend to be, Sarah—but" (he leaned over so that his face was very close to hers) "you are too young to be allowed to remain a widow!"

"And who is to prevent me , pray?" she demanded, with a fine showing of independence.

"By your leave—myself," answered the boy, suddenly seizing her disengaged hand and drawing her toward him.

The struggle was a brief one. Before physical predominance, mere mental supremacy and an excess of worldly experience are powerless. The widow recognized this.

"And I thought," she murmured, extricating herself with what dignity she could, that you were only a boy!"

"I was—yesterday," the boy admitted; but now——"

"Now," she put in gently, "you are older—much older and wiser than I am."

"Yet not too wise to learn love's lesson from you," he protested, gallantly. "It is from your lips, sweet, that I shall drink that generous wine—and so gain Heaven!"

"Our dance, I believe," said a courteously deprecating voice at their elbow.

The widow and the boy turned simultaneously with a guilty start. A man stood patiently in the background absorbed in the examination of his program.

The widow uttered a stifled exclamation.

The boy raised his eyebrows.

Then they looked at each other and smiled.—Percy Yeavett, in Denver News.

SIGNIFICANCE OF ORANGE BLOSSOMS.

"Authorities speak of the use of orange blossoms at weddings as due to the fact that the orange tree, bearing its ripe, golden fruit, is a symbol of fruitfulness; and this, we may take it, is the main reason of the pleasing custom.

In Crete, the bride and bridegroom are sprinkled with orange flower water; and in Sardinia, oranges are attached to the horns of the oxen which draw the nuptial carriage. Dr. Brewer says that Saracen brides carried orange blossoms at weddings, and suggests that our modern custom is a survival, or revival, of theirs.

In "Vanity Fair" Thackery speaks of orange blossoms as "touching emblems of female purity imported by us from France. This happy thought, however, is merely a fancy of his, for orange blossoms, according to French scholars and writers, simply indicate that "mademoiselle" has attained the status of "madame."

JAMES R. TOWNSEND
Solicitor of American and Foreign PATENTS
Copyrights, Trade-marks and Labels Registered
Rooms 428-433 Bradbury Blk., Los Angeles, Cal. Phones 347

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

WANTED
A Bright Young Man with Light Team in your county. Steady work and good wages for the right man. References required. For full particulars, address
KOCH V. T. CO., Box C, WINONA, MINN.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N. Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

Cookery Recipes

MENU FOR SUNDAY DINNER.

The following will make a fine town or country dinner:

Cream of tomato soup.
Bread sticks. Celery.
Smothered chicken.
Mashed potatoes. Creamed parsnips.
Lettuce salad.
Wafers. Cream cheese.
Ice cream. Macaroni.
Salted almonds.
Coffee.

* * *

Squabs and pigeons.

Panned Squabs—Split the squabs through the back and breast, spread with melted butter, and set in a hot oven for ten minutes. If not browned enough put for a minute or two into the broiler. Serve on buttered toast slightly moistened, and pour over them the drippings from the pan.

* * *

To boil squabs—Dress like broiled chickens, split down the back, pound flat with rolling pin, butter the broiler, and cook over coals or gas until a delicate brown. Turn them often. When done sprinkle with salt and pepper and spread with butter.

* * *

To broil pigeons—Put the pigeons in a kettle that will crowd them slightlv, so that it will not take a large quantity of water to cover them. Cover tight and boil slowly until there is only half a teacup of water left in the kettle. If it is a flaring granite saucepan, in which the sides brown slightly over the gas, so much the better. Spread the birds with butter and brown them on the broiler. Serve on buttered toast and pour over them the drippings from the pan.

* * *

Potted pigeon—Truss the pigeons, put them into a baking pan and run them into a hot oven to brown. While they are browning make a sauce of butter and flour rubbed together and thinned with stock. Stir this until boiling, and add a little onion, chopped parsley and a dash of kitchen bouquet. Put the pigeons in a sauce pan, cover with the sauce, and cook slowly for an hour and a half.

* * *

Roast pigeon—Wipe dry and spread a lump of butter on a bit of bread and put in the cavity of each bird. Cover the bottom of the baking pan with thin slices of pork and put the pigeons in, trusses and with the back down. Put a little water in the pan, baste often, and roast a light brown. It will take from twenty to thirty minutes. Make a gravy from the drippings in the pan, and just before sending the pigeons to the table garnish them with bits of salt pork and squeeze the juice of a lemon over them.

* * *

Baked squabs—Sprinkle the squabs with salt and pepper. Melt a tablespoonful of butter in the bottom of a roasting pan and pour in a little Maderia wine. Put in the squabs and cover them with a piece of white paper. Roast in a hot oven for twelve minutes, and then remove the paper. Wash the livers and place them with the squabs, cooking three minutes more. Have ready some buttered toast, crush the livers, spread them over the toast, and dip the toast in the gravy from the pan. Serve half a bird on each slice of toast.

A good book is a fine companion. Especiallv a bank book—New Orleans Picayune.

THE FEMININE SIDE OF FARM LIFE.

This is fittingly set forth in the Breeders' Gazette, where Bessie L. Putnam says: "The spirit of progressiveness has invaded rural precincts, and the woman of the farm is awakening to her own possibilites. While the town club-woman is clamoring for suffrage and other legitimate recognition, her unsophisticated sister is quietly gathering up privileges undreamed of a generation ago. Passive endurance has given place to actual advancement. The twentieth century woman feels her own power and resents the implications of helplessness and oppression lavished upon her foremothers.

True, she must work. But soap and candle-making, wool-picking, spinning, weaving, knitting, and to a great extent, dressmaking have been eliminated from her list of duties. Butter and cheese-making have yielded to the doctrine of co-operation, and the milk is wheeled to the factory daily in large cans; or, if near a trolley car, it is whisked away to the city to be retailed at fancy prices.

Invention has lightened her burden in many ways. The washing machine has replaced the washboard, and starched clothes go to the city laundry. The shallow dug well of surface water has given place to the more permanent one drilled in the solid rock; this, with wind mill and tank, supplies all the conveniences of city water without its impurities. Kerosene or gasolene stove dispenses with the mid-summer sweating over culinary matters; hard coal burner or furnace brings summer heat to the country home in mid-winter. The incubator hatches chicks by the hundred where the old hen hatched them by dozen, with never a mite to annoy. Nor does this superabundance glut the market and bring prices down to almost nothing; cold storage and rapid transit have extended the market radius almost indefinitely.

Her fertile brain discovers other sources of pin-money, more alluring than shop or factory. Bee-keeping is both pleasant and profitable, requiring comparative little time or capital. Fresh canned or evaporated fruit, vegetables, herbs, cottage cheese, nuts, flowers, and in autumn bright-colored leaves or berries find ready sale in many places; and if there is no local demand the business woman is learning the use of printer's ink.

Only the most wealthy city woman can as often secure the luxury of a horse and carriage. Telephone and trolley have broken that great ban to farm life—isolation. Rural free delivery brings the morning paper and the current magazine to her door. University extension enables her to enjoy the best in literature and science. Centralization and township high school assure to her children a liberal education. Her lawn is smoothly shorn. Flowers and vines, doubly enjoyed because of her own cultivation rather than the product of a professional gardener's skill, adorn the grounds; and the choicest of "potting soils" and fertilizers are at hand. Her hammock needs no screen to shut out the view from an over-inquisitive neighbor; the broad horizon is stretched out before her. Her children have a more delightful playground than the most munificent park svstem has yet devised, one on which "keep off the grass" placards and contaminating influences are alike unknown. Butterfly and blossom give variety to the scene, while the bird and squirrel keep house among the branches, almost unmindful of their child admirers who are playing keep house below. Her camera catches the choicest scenes in Nature; and as these shadows are permanently fixed to please the eye of self and friend the substance appreciates the value. Truly, amateur photography has an important mission in the esthetic culture of the rural home.

A WORD TO THE GIRLS.

There are thousand of girls in California who will become the wives of farmers in the not far distant future. They will be the helpmates of the young men who have selected farming life for a vocation. These girls should qualify themselves for intelligent wives by educating their minds to make the home beautiful. They should study plant life, learn how to grow pretty flowers, keep the beds in the lawn radiant with foliage and thereby give an inviting appearance to the "home place."

It does not require an expensive course of reading and study on the part of the young woman to fill her mind with practical ideas of flower and plant culture, which will always come in good stead when she is busy with the cares of the home and has no time to read. We know a young woman who spends an hour each day reading books pertaining to floral culture, making copious notes in a copy-book for future reference. This girl will be an encyclopedia of knowledge before she is twenty years old, and not only be able to grow choice flowers and plants but tell others how to succeed in garden plant raising.

Aside from the practical there is the pleasure to be derived from studying vegetable and plant life, and no housewife in California is qualified who is not well posted on the care of flowers, plants and vegetables. So the advice of the Cultivator to the girls of this State is to qualify yourselves as practical fioriculturists before you assume the duties of a wife.

TAKE A COURSE NEXT YEAR.

The experience a young man gains on the farm is a most valuable asset. He should, therefore, reflect well before deciding to throw it away by entering some other profession in which this experience is of no special value. This is particularly true when we consided the extent to which most of the other professions are crowded and the unusual opportunities now offered in agriculture. Every ambitious farmer's boy in California should plan to supplement this experience by a training in the College of Agriculture, so as to be prepared for the greatest possible success. Ten years ago it was freely predicted that the demand for trained men in agriculture would soon be over supplied. The supply today is many times greater, and the demand is farther from being supplied than ever and is growing more rapidly than the number of young men fitting themselves to take such positions is increasing.

To place this sort of training within the reach of the largest possible number of young men who now live on the farm and who cannot avail themselves of a regular course, Short Courses in Agriculture are offered at the University each year. One relates to soil fertility, crop production, horticulture, etc. Another relates to animal feeding, breeding, judging and animal diseases, and the other relates to dairying in all of its phases, from the production of milk to the manufacturing and marketing of butter and cheese.

Practical experience is given in these courses in handling commercial fertilizers, planting and pruning trees, judging live stock, diagnosing diseases, manufacturing butter and cheese and in testing milk, etc.

Agriculture in all its phases has come to be a scientific study. The young man who wishes to obtain the best results will be the one who has fortified himself with the best basis for work by education along the lines he intends to pursue.

MAKE YOUR CHILDREN LOOK NICE.

It is criminal, says a writer, for women, for parents, or guardians to neglect the care of the figure, hands or skin of their children. Young people can hardlv have too much fresh air or exercise, but they need not let the skin be burnt up by the sun, or the hands be spread by too much exercise. Girls should not be allowed to eat anything and everything whether good for their complexion or not. Too much butter, too little cream and milk, too much meat and hot cakes and quick eating all militate against beauty of form and face.

SOME FOOLISH FACTS.

Barnum was a generous man; he gave everybody a show.

Washington's first ride was when he took a hack at the cherry tree.

A prize fight is a striking affair, and a cashier's business is a paying one.

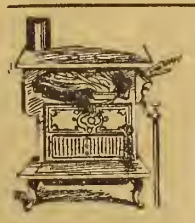
The most important needle work in the world has been done by the mariner's compass.

A woman cries when she is tickled and laughs when she is mad.

An architect is a designing man.

A milliner is always a trim creature.

The path of duty is through the custom house.



BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

Security Savings Bank

LARGEST SAVINGS BANK IN SO. CALIFORNIA

Those unable to visit the bank in person may open their accounts and transact all their banking business with this institution by mail.

4% INTEREST PAID ON TERM DEPOSITS

HERMAN W. HELLMAN BUILDING, LOS ANGELES, CAL.

Write for booklet "A" on banking by mail. Rainfall Chart and 112-page Atlas sent free.

IT'S PENNY WISE

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 2124 Willow St., Los Angeles.

In this issue of the Cultivator we prints the advertisement of The W. W. Howard Co., successors to W. W. Howard, this company having purchased all his fine S. C. White Leghorns and will hereafter keep the stock at the farm owned by the company at Clearwater. E. T. Howe is the manager of the new company and his address is 2329 Hermosa St., Los Angeles. Mr. Howe is a thorough chicken man and will keep up the good name of the chickens coming from The Howard Company.

FOR SALE

One Holt 65 H. P. Agricultural traction engine, with extra wide wheel base, with water wagon, plow cart, and all necessary attachments.

One Holt Junior Combined Steam Harvester, fully equipped.

Six Stockton Five-Gang Plows, Disc, Seeder, etc.

All in thorough repair, and used but two seasons; for sale on account of lands being subdivided, and sold off by the Chino Land and Water Company.

Chino Land and Water Co.,

20 Trust Building

2nd and Spring Sts., Los Angeles

SUCCESS

GASOLINE AND DISTILLATE

ENGINES

STAND

EVERY

TEST

PRICES— 2¼ Horse Power, $125 00
4 " " 185.00
10 " " 368.00
15 " " 556.00
20 " " 731.00
30 " " 1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON

1000 N. Main St. - Los Angeles, Cal.

A NEW TRAIN

The Los Angeles Limited

DAILY BETWEEN

Los Angeles & Chicago

66 HOURS VIA

SALT LAKE ROUTE
UNION PACIFIC
CHICAGO & NORTHWESTERN

A Solid Through Train consisting of Standard and Tourist Sleepers, Dining Cars, Library-Buffet and Observation Cars, steam heated and electrically lighted throughout.

ALL TRAINS RUN THROUGH SALT LAKE CITY.—THE SCENIC TRIP OF AMERICA

Information and literature gladly furnished at our City Ticket Office, 250 So. Spring St., or First Street Station. Phones Main 352-4095, Home 352-490.

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

Los Angeles Markets.

Los Angeles, Dec. 21, 1905.

Butter remains unchanged. Eggs are firm and scarce and are expected to advance within the next few days, on account of the limited supply and keen holiday demand. Vegetables are particularly active and prices are up on most varieties. Poultry is in plentiful supply, but heavier turkeys are wanted. Prices unchanged. Fresh fruits are scarce and demand good.

Butter.

B. of T. Creamery, per roll..65@67½
Valley Creamery, fancy....65@67½
Valley Storage 55
Fancy Dairy .....50@52½
Cooking .. ..20@22

Cheese.

Cal. 3-lb hand 19½
Cal. Young America 18½
California Anchor 17½
Northern .. ..16@17
Domestic Swiss 18
Imported do 28

Eggs.

Eggs, Fresh Ranch 35
Eastern and Storage.....32@33
Seconds 21

Poultry.

Fryers, 2½ lbs.....14
Broilers, under 2 lbs.. per lb.....16
Young Roosters, per lb.....14
Hens, per lb.....14
Ducks, per lb 13
Geese 13
Turkeys 18

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt.....5.75
Prime Steers, cwt 3.50
Cows, cwt 2.85
Calves, cwt 4.50
Sheep, ewes, per head.....4.00
Lambs, do 3.25
Wethers, per head 4.50

Potatoes.

Northern, per sack.. .....$1.15@1.75
Locals, per cwt ....1.10@1.25
Sweets, white, per cwt.....1.00
Sweets, yellow 1.25

Vegetables.

Onions, Silver Skins, cwt.....1.75
Onions, yellow, per cental.....1.40
Garlic .. ..7@8½
Cabbage, per sack 60
Cauliflower, per doz .....35@45
Bell Peppers .. ..7@10
Wax Beans .. ..6@7
Lima Beans .....4½@5
Cucumbers, per box 1.25
Green Onions, doz bunches ..20@25
Carrots, doz. bunches.....30
Turnips, doz. bunches .....20@25
Celery, dozen .....30@75
Peas, per lb .....6½@7
Egg Plant 5
Chili Peppers, green 3
Chili Peppers, dry .....15@20
Tomatoes, local 50
Parsley, per doz. bunches.....30
Summer Squash, bx 20 lbs....40@50
Green Corn, per sack .....75@1.25

Citrus Fruits.

Lemons, Standard 1.50
Lemons, Choice .. ..2.00@2.25
Lemons, fancy 3.00
Grapefruit .. ..2.50@2.75
Seedless 3.50
Navels .. ..1.45@2.00

Fresh Fruits.

Apples, Bellefleur .. ..1.25@1.65
Fall Pippins .. ..2.00@2.50
Apples, W. W. Pearmain ..1.25@1.50
Strawberries, per crate ....3.00@3.50
Raspberries .. ..15@20
Guavas, per basket 4
Figs, per box 1.25
Black Figs 1.25
Muscats .. ..90@1.75
Tokays .. ..1.35@1.75
Red Emperors, per lb 6
Pears, Winter Nellis, per lb 4
Casaba Melons, large crates 2.25@2.75

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11; fy 8½; ch, 7½.

Peaches, fy, 8½@10½; ch, 7½@8.

Santa Clara Prunes, 30-40, 8c; 40-50, 7c; 50-60, 6c; 60-70, 5½c.

Loose Muscatel Raisins, 2-crown 4½; 3-crown, 5; 4-crown, 6.

Beans, Dried.

Limas .. ..4.75@5.00
Pinks, fancy .....2.50@2.65
Lady Washington .....3.00@3.10
Navies .. ..3.50@3.75
Black Eyes .. ..5.50@6.00

Nuts.

Walnuts, No. 1, soft shell 14½
Do, No. 2 .....8@10
Do. No. 1, hard shells.....12
Do. No. 2, hard shells.....10
Almonds, paper shell .....15½@16
Almonds, soft shell.. 14
Peanuts, California 6½

Honey.

Honey, comb frames 14
White, strained, per lb 5½
Amber 11½
Beeswax 27

Hay.

Barley .. ..12@14.50
Alfalfa, local .....13@13.50
Alfalfa, Northern .....11@12.50
Wheat .. ..13.50@14.50
Tame Oat .....11@18.50

Grain.

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran 1.30
Feed Corn Meal 1.55
Shorts 1.45
Wheat .. ..$1.65@1.70
Cracked Corn 1.50
Oil Cake Meal 2.10
Cocoanut Meal 1.55

The Tulare Register announces that it is in receipt of information to the effect that the Tulare Experimental Station is to remain where it is.

The Petaluma and Santa Rosa Railway Company have broken ground for the extension of the road from Petaluma to Point Pedro, and the work is now actually under way.

Acting Forest Supervisor Lukens, under whose direction 40,000 trees were planted in Southern California last year, will plant 200,000 trees in Central California within the next year.

San Francisco Markets.

San Francisco, Dec. 20, 1905.

Butter.

Quotations in the butter market were of satisfactory proportions yesterday and the general undertone was steady. Available supplies of fresh lines of butter fully balanced trade wants and offerings of extras were well absorbed at the quoted basis price.

Fresh California, extra 30
Fresh California, firsts 27
Fresh California 23½
Eastern extras 25½
Storage, California, extras 25

Cheese.

California, new 14¼
California firsts 13½
California seconds 12½
Eastern, Cheddars 15½
Storage, California 13½
Storage, Eastern 15

Eggs.

The weakness in ranch eggs and the price for selected was reduced 2c under call. Liberal offerings were made at 40c, but there were no takers.

Eggs, fresh ranch 40
Firsts 37
Seconds 30
California Storage 28½
Seconds 23½

Poultry.

Poultry met with a snappy sale yesterday and offerings of local cleaned up quickly at the improved prices, large Hens and first quality young Chickens being keenly competed for at the maximum figure.

Old Roosters, per doz.....$4.50@5.00
Young Roosters, per doz ..6.00@7.00
Hens, per doz .....5.00@7.00
Ducks, per doz .....5.00@7.00
Turkeys, per lb .....20@22
Geese, per pair .....$2.00@2.25

Live Stock.

Strong markets prevail for Live Stock offerings and operators report a spirited trade passing in all departments at full quotations, though prices remain the same as a week ago.

Hogs, per lb., 80 to 130 lbs., ...5¾c.
Hogs, per lb., 130 to 250 lbs.....6c.
Hogs, per lb., 250 to 350 lbs....5½c.
Hogs, per lb., rough heavy.3½@4½c.
Prime Steers, lb .....6½@7½
Cows, lb .....5@5½
Calves, lb .....4½@5
Sheep, ewes, per lb.....3½@4½
Lambs, per head .....3.00@3.50
Wethers, per lb .....4½@4¾

Potatoes.

River Burbanks .....50@85
Oregon Burbanks .....85@1.10
Salinas Burbanks .....1.10@1.40
Sweets, Merced .. ..1.00@1.50

Vegetables.

Onions, yellow, per sack...$1.20@1.40
Bell Peppers .....12½@15
Chili Peppers .....5@6
Cucumbers, per box .....75@1.25
Tomatoes, per box .....90@1.25
String Beans .. ..9@12½
Wax Beans .. ..9@11
Egg Plant, per crate.....2.50
Summer Squash, per box ....85@1.25
Green Peas, per lb.....5@8c.

Citrus Fruits.

Navels, fancy .....2.00@2.50
Seedlings .. ..75@1.25
Lemons, standard .....1.50@3.00
Limes .. ..4.00@5.00
Grapefruit .. ..1.50@2.75
Tangerines .. ..1.00@1.25

Fresh Fruits.

The demand for apples was active and the market reflected the firmness noted for some days past. The best selections were in sharp request and readily commanded full rates. Grapes were mostly of low quality and continued largely nominal in price. Strawberries were in light supply at the quoted rates.

Apples, per box, extra .....1.75@2.00
Apples, fancy .....$1.25@1.50
Strawberries, per chest....4.00@5.00
Cranberries, per bbl.....15@16
Grapes, per box or crate....1.00@1.25
Pears, per box, Winter Nellis .. ..2.00@3.00

Beans, Dried.

Limas .. ..4.30@4.50
Pinks .. ..2.00@2.15
Small Whites .....3.15@3.25
Black Eyes .....4.50@4.75
Bayos .. ..3.50@3.75
Red Kidney .. ..$3.25@3.75
Horse Beans .....$1.25@1.85

Hay.

Barley, new .....$8.00@11.00
Alfalfa .. ..7.50@12.50
Wheat .. ..11.00@16.50
Oats .. ..9.00@13.50

Grain.

Wheat .. ..$1.33½@1.36¾
Barley .. ..1.20@1.22½
Corn .. ..1.37@1.40
Oats .. ..1.37@1.50
Rye .. ..1.45@1.52
Rolled Barley, per ton.....$26@27.50
Bran, per ton .....19.50@20.00
Feed Corn Meal, per ton..29.50@30.50
Middlings .. ..½.....26@30
Cracked Corn, per ton.....30@31
Oil Cake Meal, per ton.....37.00
Cocoanut Cake, per ton.....22.00

Hops.

Grades .. ..8@11

CITRUS MARKETS

New York Markets.

New York, Dec. 19.—Sixteen cars sold today. Market unchanged.

Navels.

	Averages.
Mariposa, fy, CCU Porterville	$3.20
Niagara xf. Stewart F. Co	3.35
Highlander, xf, CCU, Highland	3.05
Rialto Girl, fy, F. P. Corson	3.00
Blue Mountain, fy, Pinkham & McK	2.95
Young American, ch, Pinkham & McK	2.95
Signal. xf, Stewart F. Co	2 85
Warrior, xc, Stewart F. Co	2.90
Niagara, xf, Stewart F. Co	3.55
Rescue, ch, Stewart F. Co	3.10
Niagara, xf, Stewart F. Co	3.15
Niagara, xf, Stewart F. Co	3.55
Old Mission, fy, C. C. Chapman.	3.10
Ocean, fy, Moffat Fruit Co	3.05
Flower	2.80
Flower	2.05
Marguerite, xc, CCP Sanger	2.50
Old Mission. ch. C. C. Chapman	2.75

Thompson's Improved Navels.

Dos Palmos, xc, San Marino Gro. Pkg. Ass'n	2.80
Orchard Queen, ch, Collins F. Co.	3.05
Orange Prince, fy, Collins F. Co.	3.15
Valencias	
Fern	2.85

Lemons.

Lomas, ch, Limeniera Lemon Co.	2.35
Limoneira, xf, Limoneira L. Co	2.45
Flower	2.30

Pittsburg Market.

Pittsburg, Dec. 19.—Five cars sold today. The market is steady.

Navels.

	Averages.
Planet, xc, Sunset Fr. Ex	$2.65
Volunteers, xc, A. C. G. Ex	2.85
Pointer, xc, A. C. G. Ex	2.75
Golden Flower, xf, Redlands Golden Orange Ass'n	3.05
Bear and Eagle, fy, Tulare County Cit. Frt. Ex	2.90
Stag, xf, A. C. G. Ex	2.95

Philadelphia Market.

Philadelphia, Dec. 19.—One car sold today. The market is strong. The weather is favorable.

Navels.

	Averages.
Golden Gate, xc, Redlands Golden Orange Ass'n	$3.40
Golden Flower, xf, Redlands Golden Orange Ass'n	3.40

Lemons.

Selects, ch, San Antonio Ex	2.40

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
318 East Second St., Los Angeles

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 318 E. Second St., Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

BOG SPAVIN.

Editor Cultivator.—I have a mule having what is known as a blood or bog spavin. Swelling seems to be increasing rapidly. Mule not lame. Kindly advise how to kill the spavin. —Reader. Upland.

Hose the swollen joint twice a day with good strong stream of water, and rub in the following liniment once a day: Aqua ammonia, spirits turpentine, raw linseed oil, equal parts. Shake before using.

* * *

SAMINITIS.

Editor Cultivator.—I have a young mare in care while owner is away. Can you advise me what to do for her? She eats and looks well, but is not able to do much work. Sometimes when I drive her five or six miles after standing a little while she will be stiff most in her front legs, but more or less all over. Sometimes in the morning and even through the day she will lie on her side and stretch the legs from her, and don't want to get up. When she gets up will be stiff all over and it takes a little while for her to limber up and walk to the manger to eat; will be that way sometimes without being worked. She is five years old, and has not done any heavy work, but may have been driven too hard in buggy when two or three years old.—A Subscriber, Etiwanda.

This is a case of saminitis. If you will examine the feet you will find the frog hard and shriveled. You should keep the feet packed with white rock packing or linseed meal. The white rock packing is better as you can fill the shoe and it will remain without tying in. Apply a light blister around the coronet.

FLOW OF THE YULE-TIME TIDE.

(Continued from First Page)

flowers, where the ever blooming and bearing lemon and orange grow, where the valleys and plains stretch picturesquely in variegated green with the distant mountains crowned with snow, suggestive with the day in the far Northlands, is just as gay as anywhere else in the world. Santa Claus doffs his robes for a shirt waist and steals down the chimneys to fill the pendant stockings over the hearth and deck the evergreen trees in the parlor and to store the pantry with good things. There is mystery in the air. All are under the spell of the witchery of concealment. The hearts of the little ones here grow just as large with expectancy as the hearts of those in the snowy lands where the jingling bells of Kriskringle-in-furs resound on the air. Old hearts forget their years and softly beat the tattoo of early childhood again.

Good friends have we not oft been told
'Tis not the years that make us old.
It's what we've borne in mind and mood;
Of the good enjoyed or ills withstood.

Bundles and packages long concealed are brought out, and sweet suprises rule everywhere. It is so easy here to remember a friend—even with a simple flower, at no more cost than the plucking of it. Notwithstanding their great profusion, flowers are just as much appreciated here as in lands where they are scarce, and the recipient of a bouttoniere or bouquet enjoys the gift with as much appreciation as a mark of personal favor as if it were rare and costly. There is no region more favorable for the observance of Christmas Day than this, our sunny California.

Gentle reader, we wish you a "Merry Christmas."

SOME SUNNYSIDE SALES.

G. A. Murphy, proprietor of the Sunnyside Stock Farm at Perkins, Sacramento County, California, writes us that he has put himself in line for greatly improving his high grade Berkshire hogs by the purchase of a fine young sow bred by H. C. & H. B. Harpending of New York and a Premier boar from Gentry of Sedalia, Missouri. This will give new blood and make the already celebrated stock of this ranch more noted even than in the past.

Mr. Murphy adds that late sales have been made to J. P. Smith of a Berkshire boar and another to J. A. Harrold, Woodland, California. another to H. A. Hallott. Woodland, California, another to Fay Bros., Etna. who also took one of his short horn heifers; another sale of a fine young bred sow was made to H. M. Harlow of Perkins and another to John Sago, Freport, California.

This looks as if Mr. Murphy is making some sales of stock which will raise the grade of California thoroughbreds.

NEW COMPANY—OLD INCUBATOR.

The announcement of the Stockton Incubator Co. appears in this issue of the Cultivator, as it will during the coming season. This company has changed hands within the last few months and is now owned and managed by Messrs. Marshall & Barnes. Mr. Barnes has been associated with the manufacture of the Stockton Incubator for a great many years, but it is only recently that he has become connected with the business management. Mr. Marshall, while only recently from the East, is becoming an enthusiastic Californian and is determined to push the manufacture of this machine which has become popular in many sections as an economical and effective hatchin machine.

Readers who may be interested in incubators should drop word to Stockton Incubator Co. and get information which may aid them in purchasing for the coming season's work.

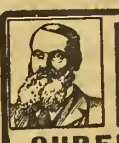
The Haetville Broom Factory is about ready for operation.

Solano County last week voted to bond the county for $250,000 to erect public buildings.

Waite, Bailey & Lynch, buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, etc. Otto gasoline engines; all sizes, to 200-H. P., better built, more economical, therefore superior to all others; prices and terms that will insure due consideration. 943-945 N. Main st., Los Angeles, Calif.

FACTS ABOUT CANCER.

A new booklet published at considerable expense by L. T. Leach, M. D., of 416 Main street, Dallas, Texas, tells the cause of Cancer and instructs in the care of the patient. Tells what to do in case of bleeding, pain, odor, etc., and is a valuable guide in the management of any case. It advises the best method of treatment, and the reasons why. In short, it is a book that you will value for its information. It will be sent by mail, prepaid, on receipt of ten cents, stamps or coin.



FITS EPILEPSY

CURED TO STAY CURED

Eminent Judges, Ministers, Congressmen and the medical press declare my cures permanent. I cure after others fail. It doesn't matter how severe the case, I can cure it. I want to send you the proof. I will send you my booklet on Epilepsy by return mail FREE. Write to-day.

Dr. W. Towns, Fond du Lac, Wis.

From the San Francisco Examiner:

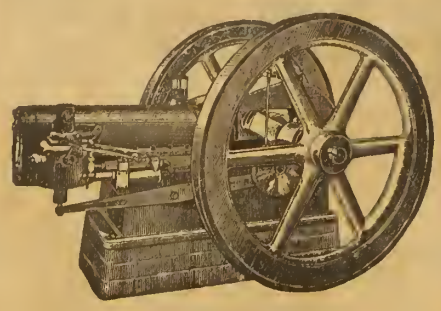
BIG CANCER IN EACH BREAST

IN WOMAN'S BREAST ANY LUMP IS CANCER

The most wonderful cure of cancer on record is the case of Mrs. G. N. Morris of 224½ First street, Portland, Oregon. She had a small lump in one breast which suddenly poisoned deep, and caused a cancer also in the other breast, when each breast became almost as large as a person's head, and cure was thought to be impossible. About that time the papers were full of commendations about another marvelous cure by Dr. and Mrs. Dr. Chamley & Co. of 25 Third street, San Francisco, who cure cancers without knife or pain, charge nothing until cured and offer $1,000 if they fail on any cancer or tumor they treat before it has poisoned deep glands or caused any hemorrhage. Such cases they always refuse as past cure. She wrote for their free book which teaches that any lump in a woman's breast is cancer. She saw a dozen or more people here and wrote to others, all of whom praised and thanked Dr. Chamley for saving their lives. They cured Mrs. Morris in two weeks. They use no X-Ray fraud nor mail order swindle. His book is full of testimonials from doctors, ministers, bankers and others, such as E. J. (Lucky) Baldwin, Arcadia, Cal., who was said to be dying three years ago with cancers, and was cured by Dr. Chamley; B. F. Porter, Second Vice-President and General Manager of San Francisco and Northwestern Railway Co., Eureka, Cal. Mrs. Elizabeth Crosthwaite, President of Golden Gate Woman's Club, 954 Arlington Avenue, Oakland, Cal., cured of cancer in breast and armpit. They, as well as Mrs. Morris and scores of others, say Dr. Chamley is, without doubt, the most successful cancer specialist living. He has the name of having cured more cancers in just one-third of a century than any other Doctor living.

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

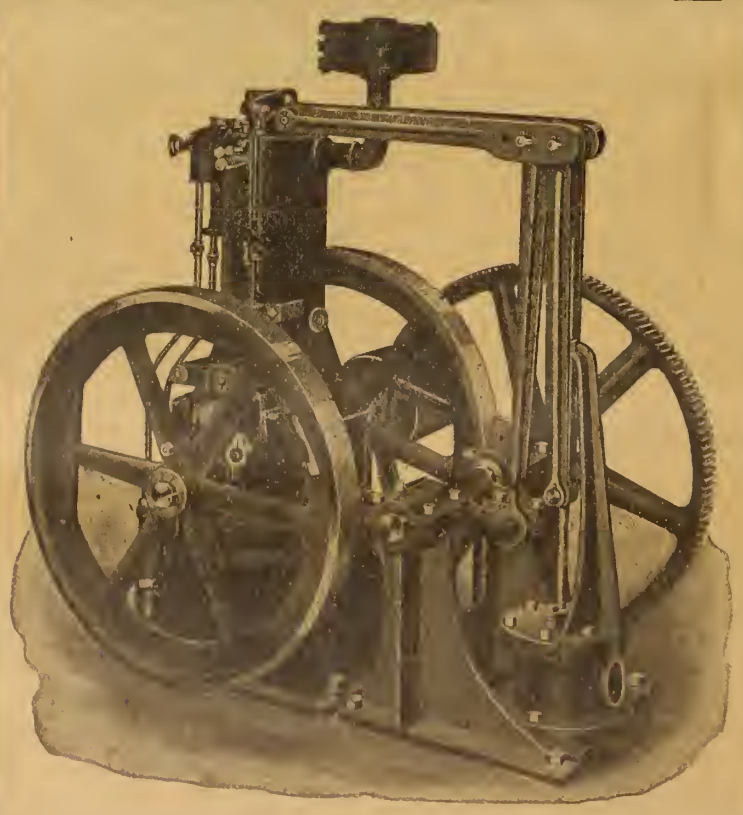
BEST, STRONGEST, SIMPLEST, MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

At Anaheim we are raising 400 inches 40 feet on 5½ gallons per hour. Can't be equalled by any other engine.

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

LITTLE WONDER



That's it's name. Little wonder it is that that is its name and that it is so exceedingly popular It's cheap. It's effective. And it's so handy and always ready. Runs the pump, the cutter, the grinder, the churn—any old thing on the ranch. Look it up right away, because you will be interested.

Wm. Gregory 602 North Main Street Los Angeles

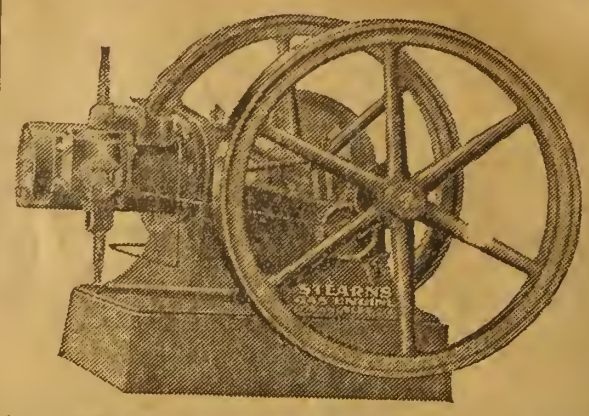
RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE

Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points s perior to any oth engine.

Hundreds in Us

Every One Satisfactory

Built for Californ cheap fuel.

For further info mation, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFOR

NATIONAL WOOD PIPE CO.

MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR

WOOD PIPE

WOODWARD PATENT MACHINE BANDED P WHEELER PATENT CONTINUOUS STAVE P BORED WOOD WATER PIPE

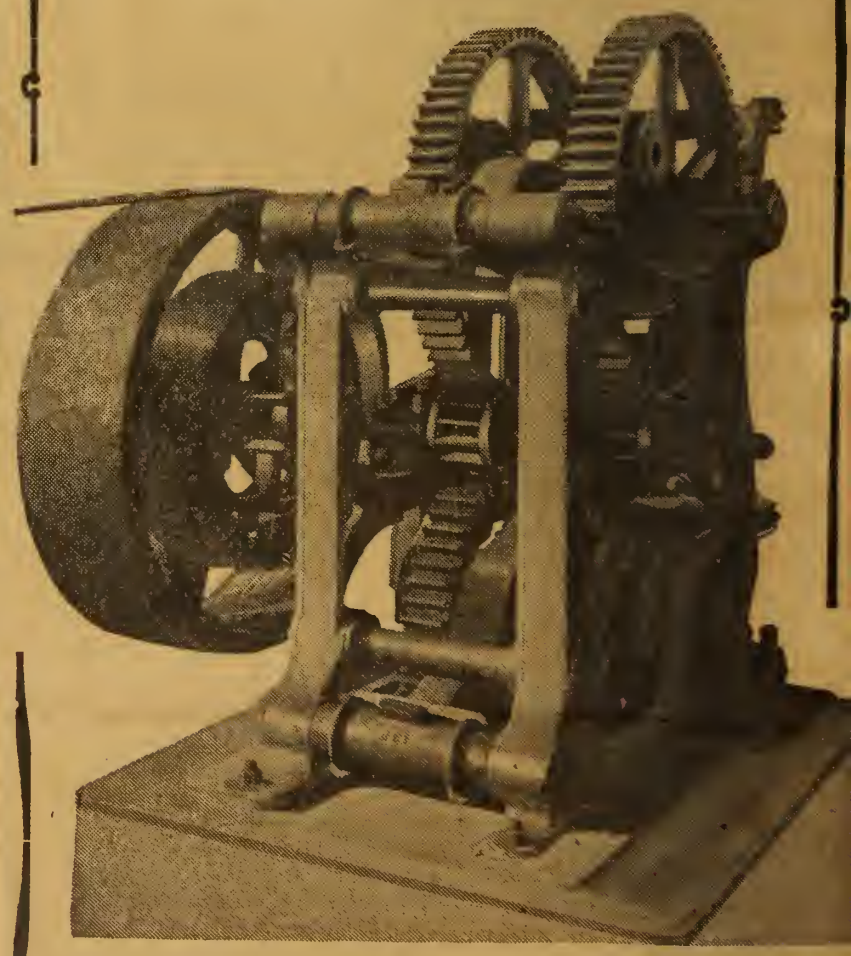
Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market S

A booklet, "The Whole Story About Wood Pipe," mailed free upon request

The Record for the New Pomona Pumps

FOR 1905

Not a Broken Rod, Not a Plunger Pulled for Repairs



The irrigation season just closing has demonstrated fully the high merit and efficiency of the New Pomona Pumps.

Every one installed has passed through the season's run without breaking a rod or requiring the valves to be pulled for repairs, proving conclusively that the ideal beam motion used by these pumps is more than has been claimed for it.

The slow, uniform motion upward and the quick, smooth down motion handles the rods without any jerk or jar, while the long lap of the plungers in passing the dead points, keeps the water column in continuous motion upward and a steady stream flowing from the discharge pipe.

They have passed through the experimental period and are built better than ever for next year.

The ideal pump for irrigation purposes. Send for catalog.

Pomona Manufacturing Co., Builders, Pomona, Cal.

When writing to Advertisers Please mention Cultivator

California Cultivator

LOS ANGELES SAN FRANCISCO

DECEMBER 29, 1905

INTERESTING ITEMS ABOUT SAN FRANCISCO

Estimated population June, 1904, was 485,000.

City's area, in acres, 30,000.

Miles of streets, 850.

Miles of paved streets, 270.

Miles of street railways, 264.

Since the San Francisco mint was established in 1854, the complete coinage to June, 1905, $1,600,000,000.

Number of banks, 51.

Ranks first in the world in the use of the telephone, having one for about every ten inhabitants, or a total of over 45,000 telephones.

Street cars are operated over a 25.4 per cent grade.

Mean annual temperature, based on records of half a century, 56 degrees.

The first ship that sailed into San Francisco bay was the little Spanish ship, "San Carlos," which arrived in 1775, under the commandante Ayala, from Mexico.

San Francisco harbor is the largest land-locked harbor in the world; having a thousand miles of shore line, and offering a free sweep of water navigable for ocean vessels over a stretch of almost sixty miles.

The greatest ship-building port on the shores of the Pacific Ocean.

MARKET STREET, SAN FRANCISCO Cour. Cal. Pro. Com.

IT'S NEARLY ALIVE!

Something That's the Most Nearly Alive Stuff in the World

It's Nearly Alive

You know an egg is just an undeveloped chicken; all the yolk of an egg needs to make it LIVE is the mere heat of hatching. It is, therefore, pretty near life itself. That's why the yolk of an egg is such powerful nourishment when taken as food.

A yolk of an egg is about two-thirds phosphoric acid, and phosphorous is the most nearly ALIVE STUFF in the world. It's the phosphorous that's on the end of the match that makes it burst into a flame when you rub it. Drugstore phosphorous will burst into flames if you merely touch it, unless you keep it in water. But that's not the kind of phosphourous that we use as food. But the phosphorous that makes the yolk of an egg turn into a LIVING CHICK by the mere heat of hatching, is the same phosphorous that makes the heart or germ in seeds sprout into a LIVING, GROWING PLANT, by the mere heat of the soil. And it's phosphorous that makes the CHICKS GROW, and it's phosphorous that makes the hens lay.

PHOSPHOROUS—Where do you get it—how do you get it? Well, we'll tell you about that some future time. But we aim to put enough of it in Coulson's Special Dry Chick Feed to make the chicks grow, and enough in Coulson's Egg Food to make your hens lay. IT'S A GREAT IMPROVEMENT—the other manufacturers haven't found it out yet. They may imitate COULSON'S FOODS in looks, but they can't imitate the secret ingredients and result-getting qualities.

A Sack of Coulson's Egg Food.

A mixed feed for chickens to make the hens lay lots of eggs. This feed is composed of about three-fourths ground grains or mill feeds and nearly a quarter of animal meals, that is fresh, fine ground bone, dried blood and the cooked heart and liver meal.

Your hens will get more egg-making material out of 1 sack of Coulson's Egg Food than they would from two sacks of corn or wheat or mill feeds. Your hens will relish a warm mash in the morning of Coulson's Egg Food, and they will lay many more eggs if you will give it to them.

Buy it by the ton and get your hens to laying. That's what they are for and that's what Coulson's food is good for.. Therefore it is to your interest to always insist upon getting COULSON'S.

SKINNING AND DRESSING BEEF AT ARMOUR'S

The hearts, livers and kidneys are kept apart by themselves. These are then cooked up in a certain amount of the juice of extract of beef. Then after they have been cooked for five hours, they are put in big pans and baked; then they are put in a heated cylinder with a screw-propeller running through it, and into this they are dumped at one end, and they are then baked some more, and churned around, and come out at the otheer end of the machine in the form of Fine Meal; thoroughly cooked, baked and dried, and ground up into Meal. This is then run over screens and the little pieces, about the size of a pin head, are used in making COULSON'S SPECIAL DRY CHICK FEED, and the fine meal is used in making COULSON'S EGG FOOD, a mixed feed for making hens lay.

It's To Your Interest

To make as much money out of your poultry as any one else, and more, if you can.

It is to your interest to feed your hens that which will give them the greatest returns in eggs.

It is to your interest to have your hens in condition to lay when eggs are worth something.

The secret of success is in knowing how. COULSON'S EGG FOOD is just what your hens need. Ask your grain dealer for it. Beware of imitations.

It's the Life Giving Qualities

In Coulson's Foods—that's why Coulson's Special Dry Chick Feed raises the NICEST, LARGEST and HEALTHIEST CHICKS, and it's the life-giving qualities in Coulson's Egg Food that makes HENS LAY strong, FERTILE EGGS. Now is the time for such.

Something About Meat

Analyses of Animal Meals vary greatly, according to the class of animals it came from, and also from what part of the anatomy. Knowing that certain kinds of Animal Foods were better and much more nutritious than others, and therefore would give better results, we have made arrangements with the Armour Packing Co. to prepare for us a certain class of Animal Meal that is PARTICULARLY VALUABLE FOR MAKING HENS LAY the greatest number of eggs.

It isn't everybody that knows about this difference in Animal Meals, therefore they are not liable to make a food that would give as good results as Coulson's.

Therefore, you should remember this, and ALWAYS INSIST UPON GETTING COULSON'S. Nothing that's just as good. Remember, nine times out of every ten, the dealer who tries to sell you something which he tells you is JUST AS GOOD is evidently trying to sell you something that does not cost him as much, and that he will probably MAKE MORE MONEY ON.

Yreka, Calif., Nov. 23, 1905.
Coulson Poultry & Stock Food Co.,
Petaluma, Calif.

Gentlemen:

Enclosed find draft for $25.00; $16.00 for 10 sacks of Coulson's Egg Food, and $9.00 to pay freight on same. Send as before to Grenada, Siskiyou Co., on the Shasta Route of the S. P. Co., between Montague and Gazelle.

The Egg Food has given SUCH GOOD SATISFACTION that I want another lot; during the cold weather it is just what they need.

Yours respectfully,
(Signed) G. C. JULIEN.

December 15, 1905.

I was getting only 6 eggs a day from 225 hens. On October 15th I purchased a ton of Coulson's Egg Food and commenced feeding it to the hens, one meal a day, as their morning mash. Now, December 15th, two months later, they are laying 60 eggs a day, and increasing right along.

A. W. STEVENS.

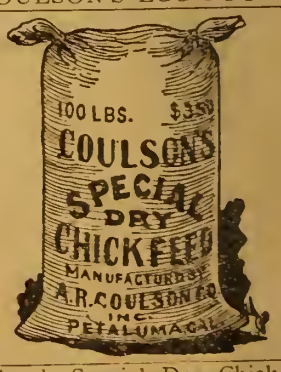
It's Yours

No matter if you are a thousand miles away, you can get it. Anything is yours if you only want it—anything. So if you have any hens you want them to have this food, so you go to the feed stores and say I want a ton of Coulson's Egg Food for my hens. I want my hens to have good feed during the winter season, as well as every other season, and I understand that the most successful poultrymen feed their hens Coulson's feed and I am going to feed it too.

If your dealer says, we haven't got Coulson's, but we can give ————, which is just as good, much better, cheaper, etc., just tell him that you are not looking for a cheaper or better feed. You want COULSON'S and you want it sure, and NO OTHER KIND will do.

Ask him to send immediately and get it for you, or there are other stores that WILL get it for you.

Over 600 stores on the Pacific Coast sell COULSON'S CHICK FOOD and COULSON'S EGG FOOD.



Coulson's Special Dry Chick Feed is all granulated pieces and the little chicks eat every bit of it. It contains THE FOOD THAT WILL DEVELOP THE CHICK in every way, making bone, flesh and feathers.

It contains the LIFE-GIVING QUALITIES. It may cost you more than some other Chick Feeds, but it's worth it. You bet!

Insist upon getting COULSON'S for YOUR SUCCESS may depend upon it; REMEMBER, YOUR SUCCESS.

$50 in Gold as a present for some one—We'll just put it in one of the 100-lb. sacks of Coulson's Special Dry Chick Feed

Coulson Poultry and Stock Food Co.

Petaluma, California

$500 IN GOLD—Look for Little Envelope in 100-lb. sack Coulson's Special Chick Feed

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXV—No. 26 LOS ANGELES, CAL., FRIDAY, DECEMBER 29, 1905 Subscription $1 a Year

The Work of Pear Thrips in California

Extracts from a Bulletin by Dudley Moulton, Entomologist for Santa Clara County

During the months February to April, if one were to examine closely the branches of many of the fruit trees in the Santa Clara Valley, he would find numerous brown insects, about one-twentieth of an inch long, hidden within the buds, blossoms or leaves, and if these are disturbed by being shaken out over one's hand, they suddenly become active, raise up the tip of the abdomen, and lifting and disentangling their wings, fly away. They are so small and their wings so transparent, that unless one watches very closely they disappear even before one's eyes.

The specific injury to blossoms varies in different plants. Trees may be divided into two groups as regards the structure of the blossom bud: (1) in which a single bud produces one blossom, such as the almond, apricot and peach; and (2) where one bud opens out into a cluster of blossoms, which later produce a cluster of fruit, such as the prune, cherry, pear and apple. In the development of the bud, the winter protecting scales are the first to spread, thus permitting the insects to enter at the tip. In the apricot and peach the insect forces its way in at the tip and down between the sheath scales and the blossom, and especially on the very tender blossom stalk in the center at the base; later it feeds on the inner parts of the flower. When the insect is once inside the bud it takes but a comparatively short time to destroy the blossom. Many buds on peach and apricot trees, thus injured, will fall with a slight tapping of the limb.

FIG. 3. Imperial Prune branches. Blossoms and leaf buds affected. Every blossom on these twigs has been killed. On the two inner branches many of the clusters have fallen.

Thrips do even more serious injury to blossoms of the second group (prunes, cherries, etc.) than they do to those of the first. The insect enters at the tip of the swelling bud and forces itself down the center of the cluster, injuring each blossom on the inner, contiguous side. When thus affected, natural growth ceases. For a time the untouched outer side of each budlet grows in the natural way, while the injured inner side has ceased growing. The deformity thus produced has caused each budlet to turn in toward the center, and all the cluster eventually fall. The injury done by thrips during the early opening of the bud is by far the most serious. As blossoms develop thrips display their preference for certain flower parts; in cherries and prunes, the tips of the petals and the stigma and style are the parts that suffer.

The feeding of thrips in leaf buds and on tender foliage is almost as disastrous as when they attack blossoms. In many cases where trees have suffered injury for three or four days it takes several months for them to again put forth new buds and foliage and to again assume their natural growth, and then often they appear sickly for the entire year. The rapidity with which whole orchards have been injured marks this as one of the worst pests which we have ever had to fight.

The insect is known to feed on the following plants, and it is probable that even this list is not complete: Apricot (several varieties), apple, almond, cherry, fig, pear, (Doyenne du Comice and Bartlett preferred), prune (English), and peach (Muir and Clings (Nichols) preferred). As mentioned, the insect gives preference to certain varieties of prunes, peaches and pears, and of the other fruits all seem to be affected alike. The Imperial prune is especially susceptible to the attacks of thrips.

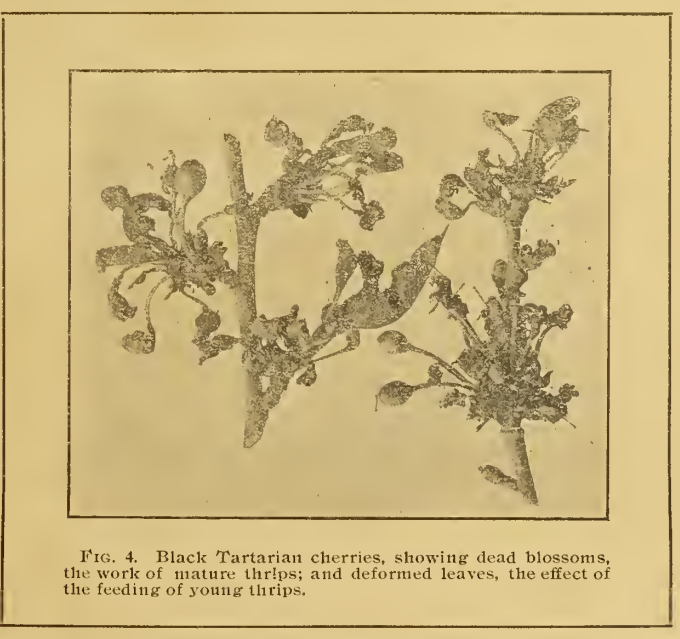


FIG. 4. Black Tartarian cherries, showing dead blossoms, the work of mature thrips; and deformed leaves, the effect of the feeding of young thrips.

Young thrips are perfectly helpless creatures and subject to the attacks of other insects, but they seem to be able to protect themselves in a remarkable way. They are commonly secreted in the terminal tips of the branches, but in some cases they seem to take advantage of certain tendencies in the growth of the plant on which they happen to feed. Newly opening pear or apple leaves have a tendency to roll from the inside inward. Young thrips find this inner protected surface a most desirable place for food and shelter, and in feeding, the upper leaf surface alone is weakened, which causes the leaf to roll up until eventually it becomes rolled up tight (Fig. 6). In doing this the insects get the tenderest part of the leaf for their food, and also secure protection for themselves. With such shelter no ordinary predaceous insect can reach them. Often on more mature leaves the insects in feeding cause a deadening of the margin, and the leaf in its development is forced into an abnormal, cup-shaped growth. This is a very characteristic injury on pear trees (Fig. 7).

It is the young thrips which injures fruit. Prunes especially are affected, although a similar scab is found on cherries, apricots and pears. Well-set fruit gets to be about the size of a pea before the old blossom is sloughed off, and under cover of this dead blossom, on almost every prune where thrips were present, one or more of the young could be found, also a small abrasion on the skin of the fruit where the insect had been feeding. We have followed this abrasion of the skin with the thrips present to the mature fruit with its scab. Only the skin of the fruit is injured, and the marking enlarges with the growth of the fruit. The scab was especially marked last year where thrips were found, and it was very prevalent again this year. It must be remarked, however, that something other than thrips has caused much of the scab on prunes during the past year.

FIG. 6. Bartlett Pear. Dead blossom clusters conspicuous; one late straggling blossom left untouched, the adult thrips having all left the tree. Leaves deformed.

(Continued on Page 618)

PRUNES IN CANS.

"Prunes! Well, that subject was worn threadbare long ago," some of my hearers will tell me, "and for prunes in tin cans, the late Cured Fruit Association tried that and it did not prove a success." Let me here tell you that a processed prune in tin cans and an unprocessed prune in tin cans are two entirely different propositions.

Some six years ago a prominent San Jose packer said to me, "Bowers, a fortune awaits the party who can devise or invent some way to pack prunes in their natural state without processing them. From that time until something like a year ago I made many experiments along that line, until I finally discovered a way to keep prunes or any other dried fruit for an indefinite period. Simply fill glass jars or tin cans, hermetically seal, and sterilize.

My next move was to experiment and find out just the condition the fruit should be in, the kind of package and what the trade thought of the proposition.

The fruit—I found by experiments that it made no difference in keeping qualities whether the fruit was moist or very dry, the same results were obtained. If put up moist, at the end of the year a can opened showed its fruit moist, and if dry when put up the fruit was dry when opened. This proved to me one thing. That moist fruit kept in fine condition and at that stage was the condition in which it should be put up.

The package—On account of breakage and weight, I found glass jars too expensive, only for exhibition purposes. I then corresponded with a number of can makers and can making machinery firms, and finally adopted the sanitary can made by the Max Ames Machine Co., Mount Vernon, N. Y., because this can has the whole top off and will admit a press plunger to press the fruit solid in the can. The top is then put on by machinery, making a double seam. No heat or solder is used in closing or sealing the can, and when goods are finished a neat, clean package is the result.

The trade—I submitted to the Eastern trade this proposition. I would pack some time in the future prunes in tin cans, in their natural state, and make only three sizes as follows: 30 to 50 size, No. 1; 50 to 70 size, No. 2; 70 to 100 size, No. 3. I also stated that I would make three sizes of cans; small size to hold 1¼ pounds of fruit; medium size to hold 2½ pounds of fruit, and large size to hold 5 pounds of fruit; the small can to be 2½ inches high; the medium to be 5 inches, and the large to be 10 inches high, all cans to be 4 3-16 inches in diameter, the same case for all sizes holding 12 large, 24 medium, and 48 small cans. Each can to be labeled and the price to be put on the label in large figures, the price being the consumers price, as follows: White label—No. 1, large can, 75 cents; medium can, 40 cents; small can, 25 cents.

Red label, No 2—Large can, 70 cents; medium, 35 cents; small, 20 cents.

Yellow label, No. 3—Large can, 70 cents; medium, 35 cents; small can, 15 cents.

I wrote to seventeen brokers who are large handlers of dried fruit, many of them handling one hundred or more cars of prunes alone. I received answers from fourteen. Nine of these wrote me very encouraging letters. Two said that I "had the best prune proposition ever brought before the American people." Five said: "Just as soon as you get your proposition in working shape we want the exclusive territory of a given state or states to sell these goods in." One said: "The price on the can does not interest us. Let the retailer and the consumer fight it out among themselves. The size by numbers was considered a good change by all. Eight firms thought the price on the cans was all right. These nine letters came from Boston, New York, Philadelphia, Baltimore, St. Louis, Columbus, Chicago, Milwaukee, Vancouver.

I have spent a good deal of time and postage to gather information in regard to the prune situation throughout the East, and I have found many conditions that are against the grower. One thing more than another is the wide range of prices. Take Philadelphia, for instance. Last summer a party interested in the prune industry visited that city. On a certain street one grocer priced Santa Clara prunes of a certain brand at 8 cents; two blocks further up town another grocer quoted the same brand and size at 15 cents per pound; then up town at a store in the fashionable part of the town 25 cents per pound was quoted for the same brand. Such a range of prices will kill any industry. The first price does not help the grower any, and the last named price is prohibitory. While by the system I have given the price would be the same everywhere.

A gentleman well known to every prune grower in the Santa Clara Valley said: "Do not make the price so high that the poor people cannot buy." I will answer the above by saying that people who buy prunes would rather pay 15 cents per pound for prunes in a nice clean package than to qay 8 cents for the majority of prunes offered for sale at many of the Eastern retail groceries. Many of these prunes are dirty, dusty, and covered with flies.

Saving to growers—Every grower who dries his own fruit well knows that some seasons his last prunes give him a great deal of trouble in getting them dry. They will hang sometimes two or three weeks in the trays. They are cured but not dry. They are fine fruit, but the packer will not receive them. He wants them dry. Right here is where the can proposition makes a showing. These prunes are just right to can, just right to pack. I claim that the growers can save 200 pounds of fruit on each dry ton, or, in other words, a ton of fruit ready for the cans would only weigh 1800 pounds or less when dry enough for the commercial packer.

On a crop of 120,000,000 pounds of prunes for the State of California then save this 200 pounds from every 2,000 pounds and we will have saved 133,333 pounds of prunes that are doing no one any good. We dry it out of the prunes and the commercial packer puts it back in the shape of water and sells this water for prunes. Counting 60 as the average size and prunes at 3-cent basis or four cents per pound, we would have the enormous sum of $533,333. Enough money to put up a factory large enough to pack in tins the entire crop of the State. The same amount of money saved would put up and equip ten factories in different parts of the State to do the same work, and all from only one year's crop.

The question has been asked me: "How about the cost of packing?" In a small way the cost will be per case about as follows: Cans, 48 cents; labels, 8 cents; case, 10 cents; incidentals, 14; total, 80 cents. Each case will hold 60 pounds net of fruit. Do I hear some one say too costly to pack? Let us see. The French packer comes to our State to buy our prunes, pays freight and duty, sends them back to the United States, and we pay the freight and duty. Can we not compete with our own goods packed in tin by the French packer if we adopt his way of packing?

To give this mode of packing a severe test I placed on a shelf in my kitchen near and almost over the cook stove, a lot of cans filled with prunes about the fifth of January and left them there until the last of August. Then every ten days for two months I opened a can. Every one was in perfect condition. Not a sign of mould or sugarcoat, and everyone who saw them was astonished at their fine appearance.

Railroad rates on canned goods from common shipping points to points east of the Mississippi are $15 per ton according to present railroad classifications, a saving of $5 per ton over boxed prune rates. This one thing would go a long way toward cutting down the packing expenses. We could have a good market for our prunes in the Orient and the Philippines if they could be kept any time after they arrive there. A processed prune has been a failure in the Philippines. They will not keep in that hot, moist climate. But in this can proposition I think that prunes can be packed so there is absolutely no loss from mould or worms. So as to be sure of this, a lot have been sent to Manilla to be left there three and six months, and then to be returned to be opened to ascertain their keeping qualities, and then a report will be published giving a full account of the work done.

J. LUTHER BOWERS.

THE CROCKER BARTLETT PEAR
Is out of sight compared with other pears.
GOLDEN RULE NURSERY - LOOMIS, CAL.

The Johnson & Musser Co.
Los Angeles, Cal.
SEED CATALOGUE Now ready. Write for it.

THE OLD ESTABLISHED
WOODBRIDGE FERTILIZERS
ARE RELIABLE
THE WOODBRIDGE CHEMICAL WORKS
318 East First St.
Los Angeles, Cal.
South Pasadena San Bernardino

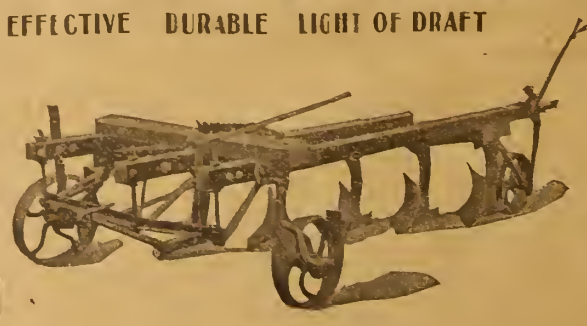
BEST TREE WASH GREENBANK 98% Powdered Caustic Soda and Pure Potash.
Copy of Analysis of competitive brand labelled and sold as "Powdered 98% Caustic Soda: Sodium Hydrate, 75.60%; Sodium Oxid, 58.59%. Signed: I. M. Curtis & Son, Analytical Chemists.
T. W. JACKSON & CO., 123 California Street, SAN FRANCISCO

STEWART BROTHERS NURSERY
The Oldest and Best Established Nursery in Southern California
The largest and healthiest stock of all kinds of Deciduous Fruit Trees in Southern California, from the famous Oregon Nursery Co. Nothing equal in size or healthy growth, with unsurpassed wealth of roots Many thousands Soft Shell Santa Barbara Walnuts grown by us and guaranteed to be of superior quality—(see sample nuts at the office). Citrus trees of all kinds and varieties. Ornamental Trees, Palms, and everything in the tree line desired for Spring planting. Call on
712 S. SPRING ST. LOS ANGELES, CAL.

WALNUT TREES
From carefully hand-selected seed. Postal gets prices.
A. A. Mills - - Anaheim, Cal.

THE ANAHEIM EVERGREEN NURSERIES
Tim Carroll, Prop.
Anaheim, Orange County, California
The Oldest Nursery in Southern California
Established 1868 by the Present Owner.
Palms, Pines, Acacias, Cypress, Camphors, Eucalyptus, Guavas, Budded Loquats and all kinds of Ornamental Trees. Be sure and visit the Nurseries. A cordial invitation to all. Nurseries, 200 yards west of Loara Station, S. P. R. R. Our fine Illustrated Catalogue free. Write for it.

Stockton Reversible Gang Plow
EFFECTIVE DURABLE LIGHT OF DRAFT



This is our regular Plow and Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.
Houser & Haines Mfg. Co.
Stockton, Cal.

DISINFECTION OF VINE CUTTINGS.

As the season for vine planting approaches a few hints regarding some necessary precautions in the choice and treatment of cuttings may be useful.

Every care should be taken to avoid any unnecessary risk of introducing vine diseases with the cuttings and roots used. There are only two serious diseases of the vine in California that are liable to be introduced on cuttings or roots. These are the Phylloxera and the Anaheim disease. Such diseases as Oidum (mildew) and Erinose may be brought in by this means, but as they exist practically in every vineyard district in the State and do not threaten the life of the vineyard no particular precautions are necessary in their regard.

Of course, if we are to have healthy, well bearing vines we must start with strong, healthy cuttings, therefore all cuttings showing poor growth, incomplete maturity. or signs of any disease should be rejected.

* * *

Odium.—Cuttings sometimes show blackened irregular spots or fern-like markings which are a sign that they have been attacked by Oidium. Such cuttings should be rejected, not for fear of introducing the disease into the vineyard, but because such cuttings will not make the strongest vines. A good cutting should have a clear, smooth bark, a solid light colored pith and hard wood.

* * *

Anaheim Disease.—A cutting badly attacked by this disease will not show the characteristic of a good cutting given above. It is possible, however, to have a cutting taken from a slightly diseased vine which will have these characteristics, but which at the same time is quite capable of introducing the disease. As there is no known means of distinguishing such cutting from a cutting taken from a healthy vine the only way to avoid the introduction of this disease is to use no cuttings which come from an infected district, as there is no known method of treatment that will free a cutting or root from infection.

Where possible the best thing to do is to obtain cuttings in your immediate neighborhood. Where this is impossible all that can be done is to avoid all the regions where the Anaheim disease is known to exist.

These regions, as given by Mr.N. B. Pierce in his address to the twenty-ninth Fruit Growers' Convention. are the following: (1) All of Southern California; (2) The upper end of the Sacramento Valley, including Tehama, Butte, Colusa, Yuba and Sutter counties, and (3) the Santa Clara Valley, including San Mateo, Santa Clara, Santa Cruz and Alameda counties.

While the disease may not exist in all parts of these counties it is impossible to define its exact limits, and, therefore, it is unsafe for a vineyardist in a county presumably free from the disease to get cuttings or roots from any part of a country where it exists.

The disease is so serious, and with our present knowledge so nearly incontrollable in practice that it would be folly to run any risk that can be avoided of allowing it to enter a new region.

* * *

Phylloxera.—The only case where cuttings need disinfection in California is when they come from a region which is not known to be free from this disease and are to be planted in a vineyard which presumably is free from it.

The Phylloxera as it occurs in California is exclusively a root feeding insect, and the danger of introducing it on cuttings, even when these cuttings are taken from infected vineyards is very slight. The danger of introducing it on rooted cuttings is, however, very great if these have been rooted in a region where phylloxera occurs, and as there is no known certain means of ridding the roots of the eggs of the insect without destroying the plant, no rooted vines should be taken from a phylloxera infested region to one that is free from the pest under any conditions.

In certain seasons, in some years, many of these insects come out of the ground and lay their eggs on the above ground portion of the vines. These eggs hatch very shortly and produce the sexual insects which lay the winter eggs to which the danger of infection by cuttings is due.

The winter egg remains where it is laid all winter and does not hatch until the following spring. When the female insect prepares to lay the egg she crawls from the leaves and upper parts of the vine where it has been hatched, to the canes, follows these canes until it reaches a piece of rough bark where it can find the necessary shelter and deposit its single egg. As the canes of most vines are perfectly smooth and without crevices the great majority of the eggs are laid in the two-year-old wood near the base of the canes. A few of them, however, may be laid in the rough places found occasionally even on the one-year-old wood or under the bud scales in the same place.

As the eggs are so small that it is impossible to detect them in practice, some disinfection method is necessary that will insure the destruction of any winter eggs that might possibly be present. No cuttings which have a piece of old wood at the base should be taken as this much increases the danger of eggs being present.

The only method of disinfection which has been found safe and practicable is the proper use of bi-sulfid of carbon. The following extract from Bulletin 131, "The Phylloxera of the Vine," published by the Agricultural Experiment Station at Berkeley, will explain the method of operation. The time of treatment is a very essential factor. If treated for too short a time some of the eggs may escape, and if too long the cuttings may be injured. If the time is at least one hour and does not exceed five hours there is no danger from either cause.

The method of using the bi-sulfid is as follows: Place the cuttings in a barrel, vat, or box made tight by means of a thick coat of paint, or paper pasted on the inside. On top of the cuttings place a saucer or other shallow dish, into which to pour the bi-sulfid of carbon. An ordinary saucer will hold enough for a box 3 feet cube or a 200-gallon vat. For larger receptables it is better to use two or more saucers. Deeper vessels will not do, as the evaporation is not sufficiently rapid. After pouring the bi-sulfid into the saucer, cover the box with an oiled canvas sheet or other tight-fitting cover, and allow to stand for from forty-five to ninety minutes. At the end of this time there should be a little of the bi-sulfid left. If it has all evaporated this is proof that insufficient was used. No flame lights should be used, as the liquid burns easily and the fumes form an explosive mixture with the air. Care should be taken not to spill any of the liquid on the cuttings, as it may kill them. It is advisable to cut off about half an inch of the lower end of the treated cuttings before planting, as the vapor injures the open pith.

Besides disinfecting the cuttings in this way, all the packing material in which they come should be burnt, or, if valuable, dipped in boiling water. Practically, it is impossible to disinfect rooted cuttings satisfactorily on account of the difficulty of killing all the phylloxera without seriously injuring the vine roots.

PROF. F. T. BIOLETTI.

A DEADLY GOPHER DISEASE.

Official experiments were made in France to test the value of the "Danysz Virus" for the destruction of gophers; —the results were highly satisfactory. The "virus" gives to the animals a disease similar in character to typhoid fever, the animals die in five days. The disease is very contagious and in two weeks 95 per cent. of the gophers in the fields treated are dead. This was determined by plowing up these fields and making a count of the dead gophers; in one hole 15 dead animals were found.

The treatment is applied as follows: To 36 quarts of water 3.5 ounces of salt are added; when this is dissolved 12 bottles of virus are added. 200 lbs. of oats are then sprinkled with this solution and the mass thorougly mixed by shoveling with a wooden shovel (not a metal one). Only the amount needed for the day's work should be mixed. A gang of men are provided each with a wooden pail full of the mixture which is spread all over the field, but especially at the entrance of holes. The amount of grain used may vary from 4 to 24 pounds per acre according to nature of crop and number of of gophers. One man can treat 6 acres in a day of 8 hours using 32 pounds of grain. The cost, not including labor is 40 cents an acre. The treatment is applied in the spring of the year.

ORANGE-GROWERS have discovered by actual tests that a fertilizer containing not less than 12 per cent. of POTASH (in the form of sulphate) insures the most abundant yield of finest fruit.

Our books on successful fertilizing are free to you, without cost or obligation, if you will write for them.

Address, GERMAN KALI WORKS, 93 Nassau St., New York.

Meyer Wilson & Co., San Francisco, Cal., are sole agents for the Pacific Coast.

Armstrong Nurseries

The Sign of Quality

Is in evidence in all the nursery stock graphically described in our new catalog, which tells of the best varieties of Fruit Trees, Grape Vines, Field-Grown Roses, Shrubs and Plants. Avoid the middleman and dealer; buy direct from the producer. A copy of this booklet will be sent to you for a two-cent stamp.

Armstrong Nurseries, Box 14, Ontario, Cal

GEO. B. WARNER'S

Orange County Nurseries

Choice line of Orange Trees, consisting of Valencia Late, Wash. Navel, Navelencia, King Tangerine. Eureka Lemon, Budded Loquat, Blue Gums, Red and Sugar Gums, large stock Soft Shell Walnut trees 3 years old, Grafted Walnuts, Palms, Shrubbery, and general line of deciduous fruit trees. Write for price list.

Est. 1889. SANTA ANA, CAL.

We have pleased our customers for 16 years

WRITE THE

FRESNO NURSERY CO.

Inc. (Capital $50,000.00)

BEFORE PLACING YOUR ORDERS FOR

GRAPE VINES

Large Stock of Muscats, Thompson Seedless, Malaga, Emperor, Cornichon, Tokay, Lenoir, Black Morocco, and Wine Varieties.

WALNUT TREES FIG TREES

FRUIT TREES

Catalogue mailed FREE. Address

THE FRESNO NURSERY CO., Inc.

BOX 42, FRESNO, CAL.

TREES

CALIMYRNA FIG

There are a great many sorts of Smyrna Figs. We eatalogue six kinds, but these do not eomprise our entire eollection. There is only one variety, however, whieh five years production on a commereial seale warrants us in reeommending it for drying purposes, and this particular variety we have designated as above to give it the distinetion it deserves. When you buy your trees from us, you know you are purchasing stoek originating from pedigreed trees, whieh have been produeing the highest grade of fruit for a period of years. When you purehase a thousand peach trees, you usually designate what you want. You eertainly would not permit your nurseryman to send you a lot of varieties, without labeling them, if you eould help it. Well, it is the same with the Smyrna fig, some are early, others late, some are purple, others green. Can you afford for the sake of saving a few eents to take chances on buying trees, which eannot be relied on. We were the first ones to demonstrate the value of this fig, and with our seal we guarantee the genuineness of our trees. Priees lower than ever before.

FRUIT TREES

Are grown on a deep, alluvial river bottom, virgin soil, eonsequently the root system is as perfeet as good soil ean make them. Our assortment of apples, pears, peaehes, prunes, apricots is more eomplete than ever.

ORANGES AND LEMONS

Our stoek is grown in Exeter, the famous thermal belt of Tulare County. The soil is a rich, deep, black loam, just the kind which develops the highest grade of fruit, as well as the most perfeet type of tree. Our assortment eonsists of all standard varieties of Oranges, Lemons, Pomelos, Citrons, Limes, etc. Carrying out the lines already established in the other braneh es, we do not eonfine ourselves to one or two standards and no more, for although it costs money to keep up a stoek of many varieties, we want to be on top in this, as well as in everything we specialize in the nursery business.

GRAPE VINES

If you do not know it, you ought to know that we are the largest growers of vines on the Paeifie Coast. We are not only growers of raisin, wine and table grapes, but we are also making a speeialty of vines grafted on Phylloxera resistant roots. Our great and enterprising neighbor, Mexieo, is having its vineyards devastated by this pest, and we have already sold two orders to prominent vineyardists there, who know what our stock is, consisting of eighty thousand grafted vines. How did we get such orders? Beeause we had pleased our eustomers before, so they had no hesitation in patronizing us again.

ORNAMENTAL STOCK

Our stoek of Texas Umbrella trees branched in all sizes, guaranteed absolutely true to name, is better than ever. We are extensive growers of Poplars, Mulberries, Maples, and all deeiduous ornamental trees suited to our eonditions.

In evergreens, we have Aeaeias, Euealyptus, Palms, Roses, Greenhouse plants, in fact everything you want for your garden.

OUR NURSERIES

Eleven hundred acres in four distinct plaees. Expensive to run a business so widely distributed. We konw it. Why do we not eoncentrate all in one plaee? Because we want to be in the position to grow the best of everything, and to do this, must select the soil to suit the tree, shrub or vine. No use to grow a tree where you know beforehand the eonditions are not favorable for its perfect development. That is what twenty-one years of experience does. It places us in the position to grow the very best stock. In making a plea for your trade, we do so, not because we have the cheapest stoek, but on the ground that when you favor us with your business, you will get the best which money, brains and experience combined ean grow.

CATALOGUE

We will mail our large profusely illustrated Catalogue. English or Spanish, to any address on reeeipt of 5e postage. Priee-list mailed on application.

PAID-UP CAPITAL, $200,000.00.

FANCHER CREEK NURSERIES, (Inc.)

GEO. C. ROEDING, President and Manager

FRESNO, CALIFORNIA

Irrigation and Pumping

TEACHINGS OF EXPERIENCE IN IRRIGATION.

It is likely that irrigation has been practiced ever since the wants of man could not be supplied by the natural production of the uncultivated land, as the earliest writings mention the pouring of water on thirsty land, and there are remains of ancient irrigation works in various parts of the world, as in Egypt and the valley of the Euphrates, which likely are older than any written history. Even in our own country there are remains of canals in Arizona which were made by some pre-historic race.

The irrigated area of the world has gradually grown until it now covers possibly 60,000,000 acres, of which India has more than half and the United States about one-eighth, being second in number of acres.

The meaning or irrigation to the farmer is the method of applying water to the land so as to produce the best results witth the least amount of labor and water. The statesman views irrigation as a means of bringing waste land under cultivation, so as to sustain a dense population on territorics that are otherwise practically a desert. The people generally arc interested because they are the owners of the public lands, and with irrigation these lands may become more valuable as well as more productive. In this way every individual as well as every locality is more or less interested in irrigation.

An adequate and perpetual water supply must first be secured before it will be wise to undertake any considerable outlay for other improvements on land, for in case the water supply should fail at any time the entire labor and previous expenditure of money may be a total loss, or if not entirely lost the returns may be so small that they will not be profitable. It is almost useless to undertake fruit growing without plenty of water that can be obtained at such time as the trees need it. Grain can be grown with a less certain water supply, as the water can be applied early in the season when water is usually plentiful and the crop may mature without further irrigation.

Alfalfa will need a much larger quantity and the supply must be at hand as often as needed in order to produce the best results. Vegetable growers need water in smaller quantities but at much more frequent intervals.

The quantity of water needed varies with the soil and climate. In some places a constant flow of one miners inch, .02 second foot, or nine gallons per minute is sufficient for ten acres. This means a depth of 8.8 inches from May to October, inclusive, or 17.6 inches for the season in addition to the natural rainfall. This will be sufficient for citrus and deciduous fruits if there is a rainfall of 15 inches which is evenly distributed, but it will not be at all satisfactory if alfalfa growing is attempted. In other places as much as one miners inch to five acres is required.

In estimating the amount of water needed the seepage of canals and the evaporation from reservoirs must be taken into consideration. If canals have cement lining the seepage will be reduced to the minimum, which in some cases is as low as 6 per cent of the supply, while in dirt ditches the loss sometimes reaches one-half of the amount turned in at the head of the ditch.

Evaporation from reservoirs varies greatly under different conditions. It has been determined that with a wind velocity of five miles per hour the evaporation is 2.2 as much as it is in still air, and that with a wind velocity of 15 miles per hour the evaporation is increased near five times. Evaporation decreases with increase of altitude because of lower temperature, so it will be seen that reservoirs in the mountains where they can be protected from wind are to be prefered to those on the warmer and more open plains. Evaporation from water fully exposed varies in the western part of the United States from about 18 inches on Puget Sound to 100 inches during the year at Fort Grant, Arizona, and Keeler, California. The evaporation from ordinary soil is about the same as from water, and from sandy surfaces is about one-third as much as from water. A covering of any kind greatly affects the amount of evaporation. When the evaporation from bare uncultivated ground is called 100 the evaporation from sand will be 33 per cent, and from ground well covered with forest leaves only 10 to 15 per cent. A covering of finely pulverized earth is even better than any other covering, showing the value of thorough and frequent cultivation.

Proper drainage is also needed where irrigation is practiced, and where the soil is not sufficiently porous some system of drainage must be provided, otherwise swampy places may be formed or alkali salts brought to the surface and the fertility of the fields destroyed. Care is also needed that the soil may not be leached by excessive application of water.

Several methods of applying water to the land are in use, depending on the needs of the soil and the convenience of the irrigators. Where large fields of alfalfa are to be irrigated with a large water supply, contour basins are frequently made to contain from 5 to 40 acres in one basin. Where the water supply is smaller and in orchards, the irrigating is done either by means of basins from 10 to 50 feet square, which are filled to a desired depth, or in furrows from 3 feet to 6 or 8 feet apart in which the water is allowed to flow until the land is sufficiently wet.

According to statistics the average cost per acre of the irrigating systems in California is $10.30 per acre, and the average annual cost for maintenance is 69 cents per acre. This does not include the systems which are supplied by pumping. These are often expensive, and a cost of $50 per acre is not consideded excessive for the installation of pumping plants and ditches.—J. B. NEFF, before State Farmer's Institute at Berkeley Dec. 28, 1905.

The Colorado River, says the Imperial Press, must be our servant, not our master. Its yellow flood must fructify and bless, not overwhelm and destroy. The day will soon dawn when the great turgid flood will be powerless to harm us, and the Colorado River will be put to the highest use of which it is capable.

A new and extensive oil refinery is to be established at Santa Barbara.

EVERY FARMER KNOWS

that it is necessary to use fertilizers; the only question is as to the method of applying them to the soil.

THERE IS NO QUESTION

in the minds of those who have ever used the ***Buckeye Fertilizer Drill*** that it is absolutely the best for the purpose. Especially adapted for use in Orange Groves. It puts the fertilizer where it will do the most good, saving time, money and labor. We also have the ***Buckeye Grain Drills***—nothing better on earth. Write to us or call at our new store.

WE ALSO SELL

the ***John Deere Plows and Harrows.*** Better than ever.

Hawley, King & Co.

224-228 South Los Angeles St Los Angeles

When you are About to Purchase a New

WAGON, BUGGY, HARNESS or OTHER FARM or DAIRY IMPLEMENT

Always bear in mind that we have what you want and of the very best quality at the right price.

DON'T THINK

that you save any money in buying an inferior article. A poor wagon will cost nearly as much as a good one and the repairs necessary to keep it in good running order are very expensive.

BUY THE BEST

and you will be better satisfied and have longer wear at less expense than in the purchase of a cheap, thrown-together trap. We carry only such goods as we can recommend to be of first-class construction.

OUR POLICY

of giving full value has been adhered to since beginning business nineteen years ago. We have constantly increased our stock and now have a complete line to offer our customers.

CALL AND SEE US

when you are in Los Angeles. We shall be glad to show you the class of goods we carry. Our ad in the Cultivator of Nov. 24, page 485, will give you a general idea of what we have.

NEWELL MATHEWS CO.,

200-204 No. Los Angeles St.

Los Angeles, California

When writing advertisers mention Cultivator.

CITRUS FRUITS

By C. A. Day. Pasadena

WASTE AND DETERIORATION OF A MATURE ORANGE CROP.

A maturing orange crop runs the gauntlet of many dangers and adverse influences which beset it at every stage of its development, causing a certain percentage of waste and deterioration of quality, as follows:

Fungus or rot, split oranges, puffing, smut or fungus from the presence of black scale, scarred fruit from various causes, severe dropping in the spring just prior to the blooming period, injury from wind, and injury from frost.

All these various influences cause waste and deterioration in some cases the loss from these changes the balance from the profit to the loss column of the ledger. It is important for us as growers to carefully go over this list and see where we can avoid loss.

In most instances where navel oranges are dropping at this time of the year it will be found, on examination, that there is a black spot in the interior of the orange near the navel end, the result of fungus and decay which has attacked the orange while yet on the tree.

The spores of the fungus which have gained an entrance to the interior of the orange through the navel causes the decay. This fungus is the same which causes decay of oranges while in transit to market. The spores of the fungus, which float in the air, come from decaying fruit. It would therefore seem a safe course to allow no decaying fruit to remain on the ground under the trees. Every year there is a percentage of loss from split oranges. This year in some orchards there have been a great many split oranges.

There are theories as to the cause but investigation by the pathological station to be established will be beneficial in determining the cause and finding a remedy.

Puffing of oranges is not showing up as bad this year as in the last two years. The condition of the trees in general is normal and except upon heavy subsoils, where the subsoil has dried out, I do not look for very much puffing. The failure to supply sufficient moisture at all times to the root system is probably the cause of most of the puffings. The smut on the oranges may be prevented by keeping the trees free from black scale. The smut prevents an even coloring of the fruit and adds the cost of washing to the expense of preparing the fruit for market and also increases the chances of possible decay in shipment. It also lowers the grade of the fruit when not thoroughly removed.

* * *

Scarred fruit.—The scaling of oranges is due to different causes. Thrips are responsible for disfigurement of much fruit. There is considerable loss from scarred fruit on the trees, the result of crowding the trees in cultivating and from an excess of dead wood in the interior, which scars the fruit in the case of wind. These scars are frequently made when the fruit is green by crowding the team too close to the tree and also the cultivator running too close. A badly scarred orange will only grade standard when otherwise it would go choice or if free from injury, fancy. This means a loss of from 20 to 50 cents per box.

* * *

Injury from frost.—There have been some frosty nights during December. Orchard trees with new wood well matured are in the best possible condition to resist damage from frost. Fruit on old trees with heavy foliage will be in a measure protected from injury except in extremely frosty locations. Fruit on young trees and old trees with scant foliage will be much more susceptible to injury. In frosty locations fire baskets in the orchard are beneficial and will often save many times the cost of the baskets and fuel. Young orchard trees, where there is not sufficient top to protect the trunks and larger limbs from the frost should be wrapped with sacking. In some years an orchard or citrus nursery will escape injury because of a current of air, but it is not safe to trust to such a chance. With the last two years practically free from frosts the grower becomes careless, and with a sudden drop of the temperature he is caught unprepared. The result is serious injury to fruit and wood. It is best and safest for the owner of an orchard located in the frosty belt to always be ready for the unexpected.

* * *

Protection of citrus nurseries.—Some of our citrus nurserymen cover their nurseries with lath. When nursery stock brings good prices this is often a good investment. Fire baskets have been used in citrus nurseries, and in many cases have saved hundreds of dollars to the owners. Nursery stock frozen so as to burst the bark of the bodies of the trees is practically worthless, although such stock is often sold to inexperienced persons.

The Imperial Press and the Coachella News speak enthusiastically of Mr. Neff as a presiding officer of the week's course in the valley as highly successful in point of interest and instruction. The Compton institute was also very successful. Messrs. Ward and Barron and Hearne are a host at these institutes. They should travel with Conductor Neff through the district.

The Riverside Press says: Dale district has always been regarded as typical a desert as was to be found outside of the Salton basin before the latter became a sea, so it will surprise the general public to learn, that owing to the excessive rainfall last season and a proportionate amount thus far for this season the agricultural interests of the district are second only to the mining interests.

CITRUS SEED BED STOCK
F. H DISBROW NURSERIES
PHONE 949 R. D., PASADENA, CAL.

Valencia Late
And all leading varieties of orange and lemon trees, and Marsh's seedless grapefruit. Trees one and two years old. Extra fine and thrifty and no scale. Plenty of fibre roots.
H. H. LINVILLE, Highland, Cal.

VALENCIA LATE
And all the leading varieties of Orange, Lemon and Marsh's Seedless Grape Fruit Trees for sale. Are principally two years from bud and very fine. Can furnish from my nurseries at Glendora, Riverside or Redlands, as desired. Address
Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Citrus Trees
The Philippi Nurseries
Rocklin, Cal.

Citrus Trees
In all the standard varieties of oranges and lemons, pomelos and limes, are our exclusive business, hence we stand ready to give you a superior nursery tree at a low price, quality considered. It will be a pleasure to correspond with you if contemplating planting an orange or lemon grove. In the meantime, may we send you our booklet on Citrus Culture?
San Dimas Citrus Nurseries
San Dimas, Cal.

Stop! Listen!
Buy Orange Trees that are true to name. I do not own the largest nursery in the world, but can produce the best trees in the world, and can beat the world on prices, according to quality.
H. M. Cole *Third House S. Hill Ave. Pasadena, California*
Sunset Phone Main 450

10 per cent gross on every car is being saved by growers using the new patent Cyclone Car Cooler (Famous Intermittent Vacuum Method). Address today
Chas. F. Edson, Manager Citrus Cooling Company, 950 West 20th Street, Los Angeles, Cal.

Valencia Trees Wanted
We desire to buy 3,000 of the best Valencia trees in California. One year buds on two year roots; if possible, from "pedigreed seed;" buds especially selected from fancy-fruit trees. Address
C. W. Leffingwell, Jr.
Manager Leffingwell Rancho, Whittier, Cal.

ORANGE TREES
Oldest Established Citrus Nursery in California, at Alhambra, Los Angeles County
Late Valencia and Washington Navels, Lisbon and Eureka Lemons. Guaranteed true to name. No better trees in this State. Lowest market price. Three-year buds, four-year roots. Horticultural Commissioner's certificate. Order early, as good trees are scarce. Inspection invited.
E. G. Wood, Owner, at Nursery or Room 732 Huntington Building, Los Angeles, Cal.

CALIFORNIA FERTILIZER WORKS, Inc.
538 CLAY ST., SAN FRANCISCO, CAL.
SPECIAL FERTILIZERS MADE TO ORDER
As we produce our own Bone, Blood, Tankage, Sulfuric Acid, and manufacture our own Phosphate, we can sell high grade commercial Fertilizer at low rates.
MANUFACTURERS OF
Pure Bone Meal and Complete Fertilizers
Producers, Importers and Dealers in Fertilizing Material of All Kinds. Send for our prices before buying elsewhere, and you will save money

DRIED GROUND TANKAGE
THE BEST AND MOST ECONOMICAL FERTILIZER
ANALYSIS { 10½ per cent Ammonia / 18 per cent Bone Phosphate
WRITE US FOR PRICES AND PARTICULARS
Western Meat Company - - San Francisco

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

FLORAL CALENDAR FOR JANUARY.

Those who have not planted spring flowering bulbs should put them in at once if they expect to grow any.

For early blooming, seeds of the following may be planted, especially during the latter part of month: Arctotis (a grand annual and too little known), asters, Dianthus (pinks), phlox, salvias, stocks, sweet peas. The latter should be sown once a month if you have room for a procession of these beautiful flowers.

AGRICULTURE IN RURAL SCHOOLS.

The greatest drawback to managing school gardens comes from the absence of the teacher and pupils during part of the summer season. Some one will be needed near each school who will assume the care of the garden during the vacation and who will consult with the teacher when there is a change from one teacher to another.

If we can get all interested to work in introducing agricultural leaflets and text books into our rural schools; if we can have hung on the walls of the country school house charts relating to the interesting and important in farming and farm life; and if we can get our teachers to instruct in these nature studies, we will have in the future a greater state horticultural society and a greater state agricultural society. The introduction of agriculture and nature study into the rural schools will bring more students into the state and agricultural college, and will not only build up technical knowledge but will build up a better civilization on our farms and in our state.

The trained rural school teachers have an abundance of interesting material for nature study near at hand. They have the farmers' homes, the fields, gardens, school ground, lanes and woods. If we will only educate teachers how to use their eyes and give them some helps so that they can teach their pupils interesting facts, they can start the country boy and girl on the road to an appreciation of the beauty of the country, the interests of the farm and the joys and duties of home making. What we need to do, more than all else, is to get more men and women who are in touch with agricultural science and agricultural education, and with home economics, to turn a portion of their attention to the rural school. They will be able to give us the reading books, the charts, the remodeled text books and the outlines for experiments and observation exercises which are needed.

EASILY GROWN SUCCULENTS.

Aloes, gasterias, haworthias and kindred plants are usually grown with a collection of cacti, to which they make good companions, and are of easy culture. The soil should be of a mixture of sandy loam, allowing, as in all cases of potting succulent plants, a thorough drainage. They thrive nicely in a sunny position during winter with little watering, whilst in summer they seem to thrive best when shaded somewhat and watered freely.

THE CANARY ISLAND PALM.

The most popular palm throughout California is no doubt the "Ornamental Date" or Canary Island date (Phoenix Canariensis). While it grows best with a goodly supply of water, it is, after being thoroughly established, quite drought resistant.

Canary Island Dates at Stockton.

It thrives in the heavier adobe no less than in the purest sand, and no soil in California has proven greatly unsuited to its successful growth. In many places it may be found a rich healthy color, when few other plants could withstand the heavy percentage of alkali present in the soil. No mistake will be made by giving this palm a place in the garden.

The Chinese Chestnut (Xanthoceras Sorbifolia), which is an ornamental deciduous shrub with a dark green glossy foliage and a very light pink showy flowers, is giving satisfactory results. This shrub has a roundish outline and grows slowly. It blooms very early and freely in the spring, making it a desirable early flowering shrub.

TRAIN THE CHILDREN.

To train children in rural improvement ideas means to train children to see, to observe the beautiful in nature, to become interested in plant life. It means to awaken in the child mind a desire to have a plant, a tree, or a garden of his very own, where he can study out the mystery of "how to make things grow." When we have interested the individual child in the individual plant we have formed a nucleus for rural improvement ideas, which may unfold into an association for creating "beautiful homes" on the treeless lands of the yet unreclaimed deserts.

Our public schools are doing a great deal with their nature studies to interest children in rural improvements, but to the parent should the child be indebted for its first lessons in the industry of tree planting.

Children naturally love to do things, but they do not love drudgery, and that which we are compelled to do becomes drudgery. How many boys have been driven away from the home farm because their fathers insisted on working them, instead of allowing them to work. How much better if parents would lure their children to industry by companionship and pleasant stories, especially about plant, animal and insect life found everywhere about them. No parent is so well posted but he may learn much about these things while instructing the children.

THE GARDEN BOY.

A nobleman once insisted on his head gardener taking as an apprentice a young man in whom he was interested. The lad was very lazy, and the gardener was not at all pleased at having such a youth thrust upon him.

Sometime after his lordship, walking in the garden, came upon his gardener and said:

"Well, John, how is my young friend getting on with you?"

"Oh, he's doin' fine!" replied the gardener, with a smile. "He's workin' away there at the very job that suits him. 'E's a-chasin' of them snails off'n the walks."

The Chaste-tree (Vitex Agnus-Castus), commonly known as Mint tree, is an ornamental deciduous tree. It has an irregular habit of growth and branches in every direction. The leaves are digitate or divided like a hand into five to seven finger-like leaflets. The tree blooms until frost. It produces many spikes of lilac to blue mint-like flowers. Both the leaves and flowers produce a strong scent, which at times is likely to be disagreeable. Most of the Vitex family are inhabitants of warmer climates, but this species is hardy in this region. Aside from the odd foliage it does not seem to have any other striking feature.

ORCHIDS For Sale

The undersigned has just returned from Central America with a large shipment of rare orchids, which must be sold without regard to price. A rare chance to procure fine collection at low cost

Pedro Llubre, 710 Gladys Ave., Los Angeles

THEODORE PAYNE
SEEDSMAN AND NURSERYMAN

HAS REMOVED TO
345 SOUTH MAIN STREET

HEADQUARTERS FOR SANTA BARBARA SALT-BUSH (ATRIPLEX BREWERI)

Greatest National Bank West of Denver and South of San Francisco

First National Bank

United States Depository for Government Funds

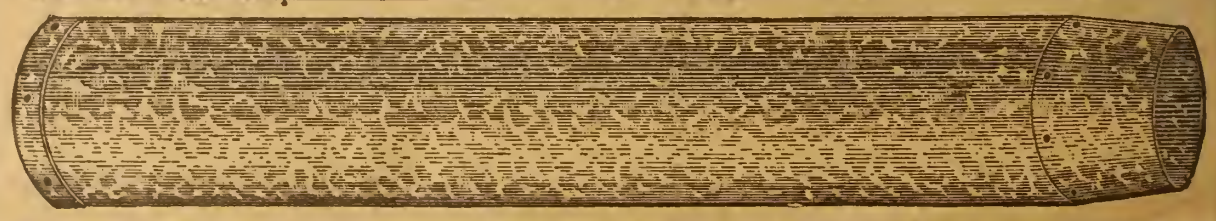
CAPITAL, $1,250,000.
SURPLUS AND UNDIVIDED PROFITS, $2,860,000

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

OFFICERS

PRESIDENT—J. M ELLIOTT. VICE PRESIDENTS—STODDARD JESS, W. C. PATTERSON, GEO. E. BITTINGER, J. S. CRAVENS CASHIER—W. T. S. HAMMOND. ASSISTANT CASHIERS—A. C. WAY, E. S. PAULY, E. W. COE, A. B. JONES.

First National Bank, Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The *only* way to *Irrigate Alfalfa. Cheaper* than *Flumes.* This is only *one* of our *specialties.* We make *Riveted Water Pipe* in lengths of *Ten Feet* from *Single Sheets.* Let us *prove* to you that we make *Pipe* and *Tanks Right.* WRITE FOR CATALOGUE.

TALLERDAY MANUFACTURING CO.
210 No. Los Angeles St. Los Angeles, California

Minnewawa Home Packing Co., Fresno, Cal., Agents for Fresno and Tulare Counties

In the Vegetable Garden

VEGETABLE CALENDAR FOR JANUARY.

The planting of vegetables will be on the increase now for several months, the lowest ebb being reached during the present month, while the period of much activity is during March and April. If we have heavy rains, followed by several severe frosts during the first part of January, it will be safe to plant many things during the period from 15th to 30th that are not in the following list:

Sow of seeds—Beets, beans, broad and bush varieties, not pole beans; cabbage, early; carrots, cauliflower (our favorite flower); lettuce, parsnip, peas, radish, spinach, tomato.

Plant sets, roots, or plants of—Asparagus, horseradish, onions, rhubarb.

If warm the latter part of the month in sheltered or favored localities early potatoes may be planted.

STORING SWEET POTATOES.

The following is taken from Press Bulletin 126 of the Oklahoma Station:

The sweet potato is very easily injured by rough handling or by being cut or having the skin broken, and great care should be taken in digging and handling the crop. All potatoes injured in any way should be marketed at once or fed to the stock. Loss from disease in storage is great enough when all precautions are taken. The potatoes must be kept dry and placed in storage at once. It is not necessary that they be placed in a cool cellar, but they should be handled no more than necessary.

There are three fundamental conditions that must be met in order to be successful in keeping sweet potatoes. Potatoes stored must be healthy and free from bruises and cuts. The potatoes must be dry when stored and kept dry while in storage. The temperature of the storage room should be kept between 50 and 65 degrees F. The first condition can be met by careful sorting before storing and by keeping the storage house free from rats and other vermin.

The second condition named is the most difficult to meet. A very good method is to keep the temperature of the store room up to 90 degrees for about a week as soon as the potatoes are stored, and at the same time give good ventilation. This is sometimes called the sweating process. Potatoes dried in this way are said to be kiln-dried. If this process is not convenient, a good method is to give all the ventilation possible so the potatoes can dry very rapidly for about two weeks. It is necessary to guard the ventilation and permit only dry air to enter, as moist air will deposit its moisture on the cool potatoes and this will produce the best condition for the potatoes to begin rotting. The storage room must be dry, very few cellars meet this requirement. The ventilation should be just sufficient to keep the air pure and the potatoes dry. The condition of temperature should be provided for in the construction and location of the building.

Small quantities of potatoes can be kept by storing them in dry sand or road dust, and old time practice of piling the potatoes on the ground and covering them with straw and litter and then with soil is too often a failure to be recommended.

SAVING CANTELOUPE SEED.

The best canteloupes for seed must come from a field where the general type was good. It must be of the proper size; the netting must be fine and closely laced. The space between the slight ribs must be smooth and well defined from the stem to blossom ends. The ribs must be all of equal width. The blossom ends must be well strengthened by a small raised button, and the weight should be nearly 1½ pounds. Then the color should be a light gray, showing a very little orange between the netting. When cut, the meat should be light green, changing slightly toward yellow at the center, fine grained and deep, so that there remains but a very small seed cavity.

Montreal Market Musk Melon.

RHUBARB.

The culture of the common rhubarb in no wise differs from that given in other states except that our dry, hot summer climate makes it tougher and more fibrous than it is elsewhere and therefore a partial shading is desirable. In spite of this it is grown in the open from the sea to the desert, though never so succulent as it becomes east of the Rockies. The time to plant the roots is now. Two year roots will give a crop the present season. When well established the plant is a gross feeder—keep the bed mulched with strawy manure.

Of late years in this State nearly everyone has abandoned the old-fashioned, summer-bearing sort for the Crimson Winter from Australia, which was introduced here by Luther Burbank.

MEDICAL PROPERTIES OF VEGETABLES.

Diet instead of drugs is becoming a more and more popular method of medication as we become more aware of the beneficial effects of the various plants and fruits on the system, and it is certainly far more agreeable to eat a fine ripe orange or a delicious peach than to take a dose of blue mass or to fill your system with calomel. A late issue of "What to Eat" says that if people understood the medical properties of the foods they would use them more for physical ills and the doctors would have to go to something else for a living. For instance, spinach and dandelion are good for kidney trouble; celery is good for rheumatism, nervous diseases and dispepsia; lettuce and cucumbers cool the system, and the former is good for insomnia.

If you want to perspire freely, to relieve the system of impurities, try asparagus.

There is nothing, medicinally speaking, so useful as the poor and humble onion. They are almost the best nervine known, and may be used in coughs, colds, and grippe, in consumption, scurvy and kindred diseases. White onions overcome sleepliness, while red ones are an excellent diuretic. Eaten every day they soon have a whitening effect on the complexion.

For erysipelas and malaria nothing is better than cranberries.

Fresh carrots and yellow turnips are good for scurvy. Carrots for asthma, watermelon for epilepsy and yellow fever; lemons for feverish thirst in biliousness, low fevers, rheumatism, colds, coughs and liver complaints.

Eggs beaten up raw with sugar are used to clear and strengthen the voice, while with lemon and sugar the beaten white of an egg may be used to relieve hoarseness.

CANNED SPINACH.

Spinach is a canned vegetable new to our markets for one or two seasons and meets with the hearty approval of the trade. This salad comes out of cans with its flavor and succulence unimpaired. The goods, so far as we have seen, have come from eastern canning centers.

FERTILIZING VEGETABLES.

All beans, peas and similar pod-bearing plants, respond freely to fertilizers rich in phosphate and potash. The turnip and all bulb-making plants relish nitrogen above all other forms of plant food.

Strawberry Plants

200,000 Excelsior Strawberries, from plants of R. M. Kellogg Co. last spring. Address
F. S. Lee, Pasadena, Cal. Phone Main 922

"Al" or Enhance Strawberry Plants for Sale

First-Class Stock
D. F. Reichard - Irwindale, Cal.

LAXTON'S NOBLE STRAWBERRY PLANTS

35c per 100, $2.00 per 1000. Order before Jan. 1st
THE HOUSTON BERRY FARM
235 Colton Avenue - - Riverside, California

Berry Vines

Logan, Burbank's Mammoth Black, Phenomenal. Prices on application
Isaac Martin Merle, Cal.

BRANDYWINE PLANTS

Brandywine Strawberry Plants for sale, Kellogg's strain. No better nor thriftier plants grown. Clean of all disease; at bottom prices.
G. W MULLENDORE, COVINA, CAL

IMPROVED GARDENA DEWBERRY

And all other kinds of Berry Plants. Nursery Stock for sale.
A. R. Rideout, Magnolia Nursery, Whittier, Cal.

Berry Plants

Brandywine Strawberry, Cuthbert Raspberry, Crandall Blackberry and Loganberry Plants.
Toluca Nursery. Toluca, Cal.

Vigorous Strawberry Plants

For Sale. 100,000 Excelsior and 300,000 Brandywine. Stock direct from R. M. Kellogg last April. Also Red Raspberry Plants.
R. De Young, R.F.D. No. 1, Pasadena, Cal.

BURBANK'S
Crimson Winter Rhubarb
OUR SPECIALTY
$1.50 per dozen, $7.50 per 100, $50 per 1000
WAGNER'S NURSERY
PHONES { Home, 1291 / Sunset, Black 1297 } Pasadena, Cal.

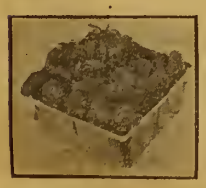
BERRY PLANTS

100,000 Brandywine Strawberries (Kellogg strain) 3.00 per 1000. 50,000 "A1" Strawberry Plants, $3.00 per thousand.
50,000 Gray's Gardena Dewberries, $8 per 1000.
Raspberries, $8.00 per 1000.
Loganberries $8.00 per 1000.
All raised on virgin soil and first-class plants.
A. E. HARRINGTON
R. D. NO. 6 LOS ANGELES, CAL.

STRAWBERRY PLANTS
(TROPICO BEAUTY)

The very best Brandywine stock at low prices for sale by the grower,
D. Griswold, Box 25, Tropico, Cal.

BRANDYWINE "A1" STRAWBERRIES

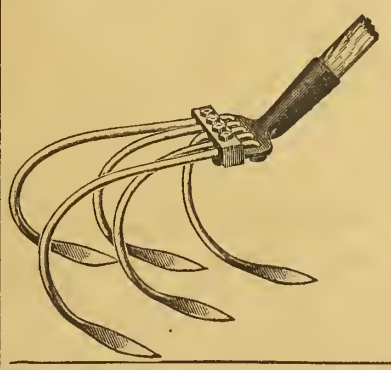


250,000

Strong Growing, Thrifty Plants for sale. Brandywine Plants direct from Kellogg Strain. The "A 1's" are the newest and best introduction of fall bearing berries known.

Frank P. Baldosser, Covina, Cal.

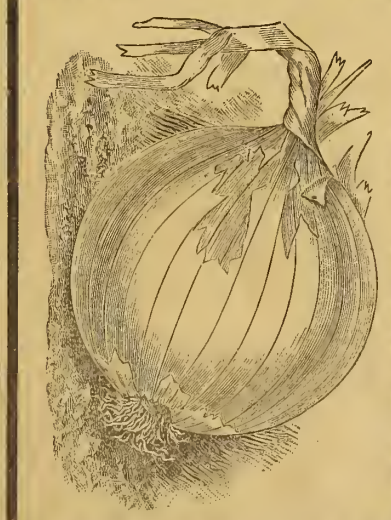
ADJUSTABLE GARDEN CULTIVATOR



THE NORCROSS
An Adjustable Garden Cultivator of Five Blades
And Five Reasons Given Why it is Best Hand Garden Tool on the Market.
OVER 100,000 IN USE.

1. It is the LIGHTEST, weighing but 3 lbs, complete with handle.
2. It is the STRONGEST, as the blades are forged out of a solid steel rod.
3. It will pull out the weeds and pulverize the ground thoroughly, leaving it level.
4. It is ADJUSTABLE in width by sliding the top plate.
5. It will work between rows or center shovel can be removed and straddle row.

IRA D. BROWN
Western Distributing Agent, San Fernando, Cal.



C. C. MORSE & CO.
THE WELL-KNOWN
Seed Growers
FORMERLY AT SANTA CLARA, ARE NOW LOCATED AT
815-817 Sansome St., San Francisco

and are prepared to sell their seeds in any quantity, whole-sale or retail.
Headquarters for *Onion* seed and all kinds of vegetable seed.
Also *Sweet Peas* and all kinds of flower seeds.
Also *Alfalfa* and all kinds of farm and field seeds.

Seeds of the Highest Quality Only

Write for Handsome New Illus. Catalogue

CALIFORNIA CULTIVATOR

ESTABLISHED 1889

PUBLISHED EVERY FRIDAY AT

Room 416, Hearst Building, San Francisco, Cal
115½ North Broadway (upstairs), Los Angeles

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

H. A. PERKINS, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

Eight cents per agate line, $1.12 per inch per week; 14 agate lines to one inch. Discounts for larger space and longer time.

LINER ADVERTISING

Advertisements in Liner Column will be charged 1¼ cents per word. No advertisement taken for less than 25 cents. Eight words to a line.

READING NOTICES

In regular reading matter type the following charge will be made:

1 to	10	Lines	15	cents	per line
11 "	50	"	14	"	"
51 "	100	"	13	"	"
101 "	500	"	12	"	"
501 "	1000	"	11	"	"
1001 "	1500	"	10	"	"
1501 "	2000	"	09	"	"

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 29, 1905

The Los Angeles office of the Cultivator has been moved to 115 North Broadway, (upstairs.)

CONTENTS.

	Page.
Pear Thrips in California	603
Prunes in Cans	604
Disinfection of Vines	605
Irrigation and Pumping	606
Waste in Orange Crops	607
Floral Calendar	608
Vegetable Calendar	609
Saving Canteloupe Seed	609
Editorial	610
Coast News Notes	611
Value of Stock Tests	612
Value of Salt	613
The Hay Chopper	614
Coming Poultry Show	616
Queries and Suggestions	619
Household	620
Markets	621

The Closing Year.—The year which will close Sunday at midnight has been memorable for its achievements. It will go down in history as one of the most strenuous, in point of things done, of any year in the past quarter of a century.

To begin with the year has been phenomenal in what has transpired. The marvelous era of prosperity which has attended the nations of the earth, with one or two exceptions, for a decade previously made 1905 the apotheosis of gigantic commercial endeavors.

In our own country especially, the greed for gold marked the life of the people. In every avenue of trade from the little shop-keeper to the merchant of princely fortune, the strenuous effort has been to accumulate wealth. We have lived in, and breathed an atmosphere of commercial acquisitiveness, and so strongly has this thought taken posssession of our life and energy that it has been the ruling, the one absorbing idea of the period. Not with in the memory of man have so many vast fortunes been combined, in a single year, as are shown by the records of 1905 to have been collected. It is true there had been understandings, and secret alliances and trade relations which amounted to "trusts," but they had not assumed the boldness of action, nor the defiance of the law, that marked their course in the early months of the year, now coming to a close.

So powerful had become the railroad and insurance companies, the Beef trust and the Standard Oil, that they seemed to be able to say to the people and to the government, even, what are you going to do about it? Apparently they had the "strong grip of the lion's paw" on the entire country, which was made to pay tribute to their treasury, and the State and the officers thereof, were reluctant to exercise the authority they possessed to check the insatiate greed of these despoilers of the people's rights lest they should lose their positions.

But men there were born to fight unlawful combines of capital, which had become the enemies and oppressors of the public, as men have risen up in the olden days to strike down the tyrants of human rights. Roosevelt, Jerome, Folk, and a hundred other less illustrious lights, came to the public rescue and with them stood the courts, and behind them lined up the masses of the common people, demanding that no guilty man should escape who had been a conspirator against the State or who had robbed and plundered the public.

So there has been scurryings to and fro, the Rockefellers, and Hydes and Hammels, each mighty in his own world of finance, have "taken to the woods, while the Mitchells and Burtons have felt the heavy hand of the law laid on them by reason of the wrongs they have committed, the one dying from shame of disgrace, the other standing on the threshold of the penitentiary with its doors ready to close behind him. From the Senate of the United States to a sentence in the penitentiary is a climax never before witnessed in this country in a single year in the lives of two of its members. Mortifying to the public sense as these distressing incidents are beneficial results have come out of them for the people.

The railroads have been taught that unfair rebates and usurious traffic contracts can not be maintained against the announced doctrine of the President, that every citizen of this Republic shall have a "square deal."

The Life Insurance companies have been so thoroughly shaken up that it would appear we are on the way to make them honest and of lasting benefit to the country.

The ornamental appendages like Depew, and Hyde, and McCurdy, have been pruned away and before the close of 1906 we shall see, we believe, an honest system of life insurance inaugurated, which will prove a blessing and not a curse to investors in life insurance policies.

Coming down to our own State we have vindicated the law in the punishment of boodlers, who were sent to Sacramento to make our laws. Let all California be glad. So may we deal with dishonest officials, wherever they may be found. May the fate of the four State Senators, convicted of accepting bribes, serve as a constant reminder to persons of like disposition, that the mills of the Gods grind fine, when dishonesty in public life is fastened on the individual.

California has many things to be glad for in the record made in 1905. What strides in population we have made; in general, how excellent the morale of the people who have come among us to abide. Then too, we have grown within ourselves. Our industries have developed at an unthought-of magnitude. We are converting the deserts into habitable places and within a few years we shall have water enough in the State to make it possible for four times our present populaion to live in California and be prosperous..

In point of financial strength the State has gone forward by leaps and bounds during the year in a manner undreamed of. More money has come into the pockets of the citrus growers than in any one year in the memory of those engaged in this industry.

Space will not permit further consideration of this subject. We are all proud of the record made by California in this year of years, and as we turn our faces to the morning of the New Year with hopes and aspirations high for the greatness of the achievements we confidently believe will come, let us move steadily, courageously forward, doing all we can to make 1906 eclipse, in all that is good and great the wondrous record of 1905.

* * *

The Lesson of the Season.—"We all do fade as a leaf."

The lesson conveyed to us by the killing frosts of the past week and the consequent change in the life of vegetation, the flowers, the leaves on the trees, the tender plants which have since faded and now are dying, is one the individual who takes notice of nature and its laws cannot help but be touched by.

Eight or nine months ago the trees which adorn your lawn and grow in your garden took on new life. The bushes which have since flowered so beautifully about your door have grown on uninterruptedly amid the sunshine and the shower, until they became the delight of your eye and the glory of your home. With eager eye you watched the daily process of unfolding, and rejoiced when the fullness of their beauty came. When the last bud had been opened and the last leaf, in all its beauty and symmetry had been spread, not only as a garment for the tree, but as a toy for the wind and a target for the sun, you gazed long at the delightful spectacle, marvelled at the delicate handiwork of Nature, and recalled the rapturous words of the ancient—"He hath made everything beautiful in his time."

To day a different spell has been cast upon the scene. Whenever the frost King has spread his icy hand. There is a flash like the change of autumn upon the leaf and the Lilies, and the Poinsettia and the tender plants have dropped their heads and are a thing of beauty no more. Dissolution has set in and soon you will stand by your window to note that shrub and plant where the frost touched them and even trees have been shorn of their last vestige of beautiful raiment—deserted by the birds which loved to carol in their branches and now stand dreary and alone amid the glorious changes of the season under a California sky.

Hence the significant imagery of the inspired writer appeals to us, and there is an inward assent to the sentiment expressed—

"We all do fade as a leaf."

We are taught, however, that the leaf which falls to the earth and mingles with its dust in due time emerges therefrom in a new form of life.

In this teaching man finds an abiding comfort. It tells the story not of an eternal death but of the hour of transformations, when bidding farewell to earth he passes to the realities of a new world.

We may fade like the leaf, but like the leaf we shall come to "newness of life" again.

Job, in one of his wonderful soliloquies, says:

"If a man die, shall he live again? All the days of my appointed time will I wait till my change come."

In the change through which the leaf today is passing by the touch of the icy finger of winter we learn of the change which awaits us all.

"Falling leaf and fading tree,
Lines of white in a sullen sea,
Shadows falling on you and me."

Then, in the afterwhile the eternal springtime.

* * *

Fruit and Nut Diet.—Physicians in California are discussing the diet question again, and it seems from their papers that they regard the proper diet for this climate fruits and nuts.

For several years past our most learned doctors have advised against eating pork or beef in any considerable quantity, as beef produces uric acid which in turn creates rheumatism, and pork acting on the blood and skin creates eczema and other skin troubles.

If meat is to be eaten, mutton or game is recommended, although fish, broiled, and chicken come in for as meats "fit to eat."

There is no doubt of the fact that we eat too much meat. The American people as a rule do it. We have been educated in the eastern and middle States to meat eating because it used to be cheap and was considered necessary, is that rigorous climate.

But out here where we know no zero weather the utility and advisability of strong diet becomes a debatable question. The system can not carry so much solid matter in a climate where exercise is not taken to keep the body warm. We all know from experience that a meat meal produces a "full stomach" which carries with it the sensation of uneasiness, and that uneasiness is nothing more than indigestion—which is the source of most of our bodily discomforts.

The fruits and nuts grown on the Pacific Coast, when eaten slowly and thoroughly masticated, the fruits cooked, when they can not be eaten without, will revitalize the stomach in a few months until all forms of dyspepsia will disappear and the victim of earlier indiscreet meat eating will feel like a new person.

* * *

This has been a year of great prosperity for the Cultivator, but it will beat the 1905 record next year.

* * *

Happy New Year to all the Cultivator family.

* * *

In all that is good California affords the best.

NEWS OF COUNTRY LIFE IN THE GOLDEN WEST

HORTICULTURE.

The Tussock moth, commonly known as the horned caterpillar, is a pestiferous pest that threatens to add to the orchardists' troubles.

There is a movement on foot among the fruit growers of Clarkston and Assotin to erect a large warehouse near the business portion of Clarkston.

Orange shipments from Redlands and from all Southern California points are now considerably in excess of the output to this date last year.

At a meeting of raisin growers of Fresno, it was resolved to stand by the directors of the Raisin Growers' Association and turn down Mr. Kearney's propositions for reorganization.

The high winds of last week, says the Free Press, destroyed the olive crop of the Ventura Agricultural Company near Somis rendering the olives unfit for pickling though some of them may be used in making oil.

The Alta Advocate tells this pleasant bit of news about one of its county citizens: "J. H. Williams, a Porterville orange grower, picked 32,000 boxes this year. His profits on this crop were enough to make him rich."

One nurseryman at Hanford states he has sold enough trees to plant 1800 acres of Kings County soil to orchard. The varieties are principally peaches, apricots and apples. He can still supply customers with trees from 3 to 4 feet in height.

The orange crop at Moreno this year is estimated at about 145 cars, of which probably 125 cars will be packed at Alessandro and the balance hauled to Riverside or Highgrove. Last year 117 cars were packed at Alessandro.—Perris Progress.

An active campaign against the Tussock moth is soon to be waged by the horticulturists throughout the state. Experiments on a large scale to find a suitable remedy that will eventually destroy the pest will first be tried in Santa Cruz County.

The Chino Champion remarks: "If the olive producers in this state would organize and raise a fund for advertising the oil, there would soon be a greater demand for it than they could supply, and it would soon drive the adulterated European article out of the market."

The executive committee of the Raisin Growers' directorate at Fresno, this week, adopted a formal resolution calling for bids for the unsold portion of this year's raisin crop. The proposals will be received at 2 o'clock of January 3rd. The block includes about 12,000 tons.

The Fullerton News makes the statement that C. H. Boughton, of West Glendale, picked from his twelve-acre strawberry ranch, from the 5th of April, 1905, $20,600 worth of strawberries. It is said that this is the heaviest yield of berries ever known for any number of acres. Mr. Boughton's clear profit was 55 per cent.

Prune growers from Sonoma County complain bitterly that carload after carload of Sonoma County's fine prunes are shipped to San Jose to serve as "facers" for "Santa Claras." That will always be the case so long as "outside" prunes can be bought at a quarter of a cent a pound cheaper than those grown within the sacred limits of Santa Clara County.

The board of supervisors of Stanislaus County has passed the following resolutions: "It is hereby declared unlawful for any person, firm or corporation, to bring into the county of Stanislaus any unrooted grape vine cuttings, unless the same has been fumigated with bisulphide of carbon immediately before bringing it into the county or the same is immediately fumigated after arriving and before being taken to the place where the same is to be planted."

AGRICULTURE.

The San Jacinto Record says 1000 acres are being plowed and seeded each day in that county.

Thermal onion growers are in the midst of replanting and the crop promises to be a great success.

America produced this year 52,800,000 pounds of hops and the Pacific Coast was well up in the representation.

The Salinas Index notes the closing down, for the season, of the Monterey Canning factory. A profitable year for the cannery.

The Fullerton News states that cabbage growers report that unless there is a good rain within the next few days the crop will have to be irrigated.

Owing to the increase of price for beets a number of farmers of Pajaro valley contemplate devoting considerable acreage to that crop the coming season.

The farmers of the new town of Corcoran in Kings County, are arranging to plant several thousand acres in beets on their lands adjacent to the town.

Theo. Kearney has offered the state 320 acres of land six miles from Fresno, and Prof. Wickson is quoted as saying it is the best proposition yet made the state.

Thirty-one sacks of cantaloupe seeds, amounting to over one and one-half tons, were in Colton one day last week en route from Rocky Ford, Colorado, to Brawley.—Colton News.

The Hanford Sentinel states that one firm of grain dealers at Hanford has just consummated a deal whereby they have sold 70 carloads of their wheat. There are about fifteen tons of grain per car, making a total of 1000 tons, which is probably the largest shipment of wheat ever made from this county by one firm.

Finlay McMillan, who for several years has been engaged in cereal experiments on his farm near Fair Oaks to secure improved seed, has quite a lot of new wheat four inches above ground, showing a beautiful growth. Mr. McMillan has been successful in his experiments, his neighbors gladly taking all the product of his culture that he can spare at good prices.

L. C. Hiserodt of Fullerton states that this season will not be as good as last for sweet potato growers because the output is very much larger. Growers are coming into competition with producers in other parts of the state and the demand for this product is not as active as it was a year ago. He also estimates that there are on hand now more potatoes to market than the whole crop of last season, and a good many farmers are complaining of the heavy decay in the present crop.

A large acreage of the dry and sandy lands that lie south and east of Ontario was planted this season to Egyptian corn says the San Bernardino Sun. This year's crop has proved very satisfactory to the grower. An estimate of this season's yield has been made by reliable parties in this territory of 30,000 sacks, or 60 cars of 500 sacks each. The market price for this grain brings $1.25 to $1.50 per hundred. These dry lands seem especially adapted for this cereal, and no doubt the acreage will be largely increased next year.

LIVE STOCK.

At a public sale held near Compton last week, cows sold as high as $125.

R. Pozzi of Marysville, has sold his creamery to G. H. Hellman of San Francisco for $22,000.

Remember the great Los Angeles poultry show to take place January 8-13, 1906. Big time, big entries, big show.

The express shipments for the week were 41 cases of eggs, 510 pounds of cream, 440 pounds of butter, and 1389 pounds of chickens. — Escondido Times.

Mr. E. H. Hoyt of Watsonville won a prize in the Jubilee Poultry Journal contest for an essay giving the results of his experience in running ducks for eggs, for which he chose the Indian Runner breed.

The poultrymen of Penngrove and other localities in Sonoma County are complaining loudly about their eggs being stolen from the cases after shipments are made, claiming that their eggs have been arriving in San Francisco short.

The express shipments for last week at Escondido were forty-five cases eggs, 1740 pounds of poultry, 450 pounds cream, and 339 pounds butter. It will be observed says the Times, that the production of eggs has increased within the last month from about 30 to 45 cases weekly.

The Mission View Poultry Ranch is getting a large number of birds in condition for the Poultry Show which will be held in Los Angeles during the second week in January. This famous ranch will offer fifty White Wyandottes beside about twenty-five other breeds of birds and turkeys.—San Fernando Valley Press.

In 1883, Mr. McNear of Petaluma imported the Clydesdale horse Pointsman, at a cost of $5000. This horse sired a number of horses whose get can be found, particularly in some sections of Sonoma, Solano and San Benito Counties, so says James McNab in his address before the California Live Stock Breeder's convention.

Complaining of the manner which some farmers care for their stock, often resulting in mange, the San Francisco Chronicle says:

"Mange is a filth disease never, we think seen on animals which receive decent care unless they have been exposed to outside contagion. It is the work of a mite which cannot establish itself if animals and their quarters are kept clean, but which, once established, is very difficult to get rid of."

MISCELLANEOUS.

The next meeting of the State Bankers' Association will be held at Santa Barbara during May.

Pasadena is making great plans for New Year's tournament of roses. But what about the roses?

San Bernardino County has bought the Arrowhead toll-road for $20,000, and hereafter it will be free for all to travel on.

On December 19th an oratorical contest for the championship of Southern California high schools will be held in Pasadena.

Walter Scott, the Death Valley mining millionaire—and fool, is supposed to have been murdered last week, coming from his mine.

The Kern County grand jury has recommended that the license be withdrawn from the slot machines in that county, and that that form of gambling be abolished.

The mouth of the Pajaro River is closed again and the filthy backwater from this slough is covering all of the west end of the valley.—Pajaronian.

Forty-two thousand barrels is reported to be the average daily shipment of oil from Bakersfield during the last two months, practically all being railroad fuel.

It is estimated that there are not less than 200 men about the railroad camps in the vicinity of Yuma starving to death while waiting in the vain hope of securing work.

Spraying a Small Orchard

Requires a small spray pump—but a good one. You want just as good fruit as the owners of large orchards who use power sprayers—and you can have it. Any spray pump has done its part when it provides a high, even pressure, keeps the spraying material well stirred, gives no trouble, and works reasonably easy.

Bean's Little Giant Pump

does all this and more. When we say it "keeps the material well stirred" we mean it too, and it's important if you want good fruit. And the "no trouble" feature lets you feel good natured after the days spraying is over. The valves can't clog, the stuffing box can't leak (because there isn't any) and the pump is so simple it is a pleasure to use it. Of course we have good pumps cheaper but **Bean's Little Giant** is altogether the best barrel pump ever offered for spraying small acreage. Also a splendid whitewasher

Write for our special offer, freight prepaid, and we will also send our illustrated Catalogue No. 16 describing ten sizes of hand pumps and telling what sprays to use and how to prepare them. State number of acres and kind of fruit. Write today.

Catalogue No. 18 describes "Power Sprayers."

Bean Spray Pump Company,
161 W. Santa Clara St. San Jose, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

VALUE OF STOCK TESTS.

Every farmer should possess a knowledge of the qualifications of his stock. Public tests of celebrated dairy cows may be of but little value to the average farmer, as he does not practice the modes of feeding during such tests, nor give the same care and management to his stock. But the tests are valuable, as indicating what an animal can be forced to do if the conditions essential to success are complied with. The farmer's business, says the Philadelphia Record, is to discover what are the conditions essential to success. He must have the example of others as guides, which will materially assist him, but there are conditions, however, peculiar to his own circumstances to which he must conform, and in which no one can assist him. His soil, climate, buildings, water, shade, quality of pasture, method of feeding and kind of food used are all important factors to be considered. So far as the denial of the utility of public tests is concerned, the fact remains that they serve as beacon lights, in the direction of which all must steer. It signifies nothing that the products of the cow may apparently exceed the nutritive value of food consumed, for the figures are stern, pointing unerringly to the realization of the objects sought, and, though the high-pressure public tests may be of the kind not approved of by the farmer, yet they open up to him a wide field for reflection, and teach him that, while he may not hope to equal such, yet he must also test his stock, if he is to succeed, without regard to capacity. Every animal on the farm should be tested, whether cattle, sheep, swine or horses. The ordinary cow should have her merits known to the dairyman, and he should familiarize himself with her qualifications, not only as a milker, but as to the kind and quality of food best adapted for her purpose, and the most profitable. A cow may give only 20 pounds of milk a day and yet be an excellent animal, if she can produce that amount at a low cost, while another cow in the same herd may yield 20 pounds of milk a day and yet be as profitable compared with the other. The ewe should give twin lambs, but it is more important that she give then sufficient nourishment, as well as yielding for herself a fair average of wool. The mare may be serviceable for all kinds of work, and yet be unprofitable as a breeder, while the sow, though bringing forth large litters of pigs, may be unsuccessful with them as a nurse. Nor are the males to be exeepted. The quality of the get is important, while they must also give a profit for themselves as individuals.

In order to know each animal it must, therefore, be tested, and tested not only at certain seasons, but at periods ranging over the year, in order to thoroughly understand all the conditions. Then the feed itself may be tested, as it differs in quality at different times. A crop of hay of one year may be different substance from that of another kind, and hence the results obtained during certain periods will not always enlighten the farmer as to his proper course another time, but such tests will materially assist him to avoid mistakes previously committed, and also teach him where to economize and when to be liberal and generons to his stock.

Public tests demonstrate that there is no limit to the capacity of an animal as long as the conditions are not complied with. It may be able to do more without having been given an opportunity for so doing, and thus it is on the farm. The farmer should not condemn his animals until he has faithfully endeavored to give them the full privilege of demonstrating their capacity, and when he has performed his part he will then know that his profits will be according to the quality of the stock, as he can retain any such as have proved themselves worthy of his confidence, while the inferior class will be discarded, the result being that the stock will be gradually improved and the profits increased.

TESTING DAIRY COWS.

During the past dozen years or more a member of the State experiment stations, including our own, have been called upon to conduct so-called official tests of dairy cows in which the production of milk and butter fat by a cow for a certain period is accurately determined by a representative of a station who is always present when the cow is milked, weighs the milk and determines its contents of butter fat. He makes out a report of the test and, with the owner, milker and feeder of the cow, makes an affidavit that her production of milk and butter fat is certified to, is true and correct to the best of his knowledge and belief. These tests have generally been conducted for seven days, and in some cases for thirty days. The total production of the cow during this period is therefore determined with absolute accuracy.

These tests have for the most part been conducted for Holstein-Friesian breeders, since these breeders have been greatly encouraged in conducting such tests by liberal prizes offered by their breed association. The feeling has become quite strong, however, among breeders of dairy cattle, both Holstein-Friesian men and others, that records made on such relatively short tests do not give a very reliable measure of the dairy capacity of a cow; that is, a cow may give a very high yield of milk and butter fat for the period when such a test is conducted, but may not continue to produce large amounts of milk and butter fat for any length of time, so that the total production of the cow for the year or the lactation period, either as regards milk or butter fat, may tell quite a different story than the result of a brief official test, conducted under especially favorable conditions, generally shortly after freshening.

The system of determining the dairy production of Guernsey of Jersey cows is based on monthly tests throughout the year, or the period during which the cow gives milk, conducted by a representative of an experiment station for one or two full days each month, in the case of Guernsey and Jersey cows respectively. The owner of the cows reports the actual quantities of milk produced by the cow during the year, and these figures are checked up by the station representative on his monthly visits to the farm. The average percentages of fat in the milk of the cow on the day of testing are furthermore used as a basis for calculating the production of butter fat by the cow for the calendar month during which test takes place. The sum of these monthly credits for milk and butter fat during the year or part thereof by the lactation period, is taken to represent the annual production of the cow during the testing period, and as a matter of fact comes within one or two per cent. of the actual production of the cows as determined by accurate weighings and tests of composite samples for periods of seven days each.

It has seemed to the writer that of the different systems proposed for determining the value of a cow for dairy production, the so-called "authenticated fat estimates" of the American Jersey Cattle club are on the whole the most satisfactory both to the breeder and the general public. During the last year a number of Wisconsin breeders of dairy cattle have expressed a desire that a similar system should be inaugurated by our station, and it has therefore been decided to arrange for tests of this character in the future. From correspondence which we have had with breeders in the State it appears that this move has met with general satisfaction, and the prospects are that within a few months quite a number of Wisconsin breeders will have cows entered for yearly records, according to this system. The rules for the conduct of these tests have been formulated and are subjoined, as they will be of in-

A Bunch of California Sheep on Native Pasture.

terest to breeders of dairy cattle among your readers. We cannot, of course, go outside the State in conducting these tests, but will be glad to have Wisconsin breeders take advantage of the plan proposed to determine the dairy production of their cows, and we believe that it will be greatly to their advantage to do so.—F. W. Woll, Wisconsin Experiment Station, Breeders' Gazette.

HANDLING THE DAIRY BULL.

The experience of the Kansas Agricultural College with bulls indicates that it is not safe for a man to take any risks, even though the bull may appear gentle. One of our careful and painstaking herdsmen was forced up to a stone wall by a bull that had pushed the gate open while the herdsman was endeavoring to catch him with the bull staff, and, although this herdsman had tried to be very careful, a little carelessness in seeing that the gate was not fastened until he had the bull caught came very near costing him his life. It is comparatively easy for a herdsman to get careless while handling a gentle bull, but while he may think him perfectly safe he is nevertheless dangerous; tame bulls do the damage. A good, strong ring in the nose has much to do in taming a bull. If it is not enough, a chain attached to this ring and dragging on the ground will result in his stepping on it from time to time and aids very materially in holding in check his vicious disposition. Usually this chain can be reached with the bull staff and so help in catching him.

The only safe plan to follow is for the herdsman never to go into the yard without some form of protection, as a pitchfork or a sharp pointed prod; and if the bull shows signs of being disagreeable it would be better to have two persons around when an effort is made to capture him. A bull should always be handled so as to let him know that the herdsman is master. The bull's disposition is greatly improved by currying and by offering him apple cores, turnips, and other delicacies which appeal to his taste. No one should ever be allowed to tease him.

DOGS VS. SHEEP.

As the dog flourishes the sheep industry wanes. The cry which comes from every state is practically the same. The losses from the dog infested localities stand as a barrier to sheep expansion. This dog menace is worse than any ever caused by wolves, worse than the gadfly or gid, or nodule disease, or lung, stomach or tape worms, or adverse tariffs—worse than all these combined.

Even in Ont, where there is blue-blue-grass ahead of Kentucky, and coarse grains for feeding sheep ahead of the average yield of the United States, the sheep industry is declining. The cause of the decline is the increase of the dog and the mischief he does. One of the worst features of the evil is the fact that it becomes more aggravated as the population increases. On the ranch losses from dogs are the exception. As towns grow and cities enlarge, the sheep industry recedes from them. The opposite should follow.

Should there be any great impropriety in farmers generally who own sheep shooting down every cur which comes upon their farms unaccompanied by his owner? In what other way can the farmers protect themselves when the law persistently refuses to protect them? It may be answered that in this way valuable dogs may be killed. This would be possible, but not likely. Valuable dogs, like good farmers, stay pretty close at home. It is the vagrant dog that wanders. So long as the farmer fails to assert himself the dog men will overrun him and the dogs will overrun the earth.—Prof. Thomas Shaw, Minn. Agri. Col.

VALUE OF SALT.

Animals will travel long distances and brave great dangers to get at saline earths, called salt licks; horses and cows are most healthy when provided with lumps of rock salt in their mangers or pastures, and even bees will sip a solution of salt with avidity. Men will barter gold for it in countries where it is scarce, and for it husbands will sell their wives and parents their children. In some districts of Africa salt is far more expensive than the purest white sugar in Europe, and children will suck a lump of it in preference to sweetmeats. But the existence of a greater or less appetite for salt in all individuals shows that this substance serves more important functions than that of merely gratifying the palate.

Salt being a large constituent of the human body and forming about half the total weight of the saline matters of the blood, the constant loss of it by the secretions, the bile, and even tears, requires to be made up by its employment as a condiment. The free acid found in the stomach, and which forms an essentail constitutent of the gastric juice, is obviously derived from the salt taken with our food; and the soda of our blood and in some of the secretions is doubtless obtained from the decomposition in the system of common salt, which is the only mineral food of man and the only saline condiment essential to health.

One evening, while enjoying a visit from an Englishman, hickory nuts were served, and this English friend called for salt, stating that he knew of a case of a woman who was taken violently ill by eating heartily of nuts in the evening. The celebrated Dr. Abernathy was sent for, but it was after he had become too fond of his cups, and he was not in a condition to go. He muttered "Salt! salt!" of which no notice was taken. Next morning he went to the place and she was a corpse. He said had they given her salt it would have relieved her, and if they would allow him to make an examination he would convince them. On opening the stomach the nuts were found in a mass. He sprinkled salt on this and it immediately dissolved.

JERSEY TEST.

Editor Cultivator—You published a photo and report of the year's work of one of my registered Jersey heifers, Evelyn of Venadera, in May of 1904. This was as a two-year-old with first calf. She gave in 365 days, 7,045 lbs. of milk, containing 341.81 lbs. of butter fat, equivalent to 402 lbs. butter 85 per cent. fat. I am now enclosing you the official yearly test of Evelyn of Venadera with second calf. She dropped her second calf August 20th, '04, and began an official yearly test at three years and four months of age, September 1st, '04, under the supervision of Mr. C. S. Burgess, official tester for the American Jersey Cattle club for Southern California. For the 365 days ending August 31st, 1905, she gave 8,714 lbs., 15 oz. of milk, containing 457.25 lbs. butter fat, equivalent to 537.94 lbs. butter 85 per cent. fat; an increase of 1,669 lbs. of milk and 135 lbs. of butter over her record as a two-year-old.

To be eligible to the A. J. C. C. register of merit, a cow three years old must produce 300 lbs. of fat in a year. It will be noted that Evelyn produced 157 lbs. above this mark, or 57 lbs. more than is necessary for a mature cow.

I take special pride in this excellent official record made by Evelyn as a three-year-old because of the fact that she was bred and raised in the Venadera herd. Her sire is Harry B. Gordon, No. 47246, a bull that stood at the head of the Venadera herd for several years. Her dam was Elaine C., a splendid cow of the Coomassie and Pansy families.

Evelyn is a handsome cow, light fawn in color, with a splendid udder and extra fine teats, well placed. She is due to calve again in the near future and should she continue to improve until she reaches maturity, as she now promises to do, she will certainly prove to be a very prenomenal cow.

I have a few other daughters of the bull, Harry B. Gordon, now on official test, and I will send in reports of their work when finished.

Yours very truly,
GUY H. MILLER.

Official Yearly Test.

1904	Milk. Lbs.	Oz.	Pct. Fat.	Lbs. Fat.
September	1,050	..	4.37	45.885
October	996	10	5.35	51.713
November	789	6	5.85	46.193
December	755	10	6.17	46.620
January, 1905	663	9	5.87	38.947
February	596	4	5.60	33.387
March	688	..	4.57	31.441
April	641	12	5.09	32.662
May	578	5	5.00	28.915
June	647	8	5.13	33.216
July	676	1	4.99	33.732
August	661	14	5.22	34.545
	8,714	15		457.256

457.256 lbs. fat equivalent to 537.94 butter 85 per cent. fat.

FIRST-CLASS MILK.

Wallace's Farmer truly says, "first-class milk cannot be produced in an improperly built stable." And Nevada Dairyman adds: "Not one cow stable in a thousand, in the driest dairy districts, is properly ventilated. Is it any wonder that cows become diseased; that tuberculosis and a host of other diseases take hold of the cows in these close, foul stables? One would think the dairy farmers would take hold of this matter for the sake of their own property, the cows. But a talk with them will reveal that ninety-nine per cent take no stock in the idea that pure air is necessary to keep a cow healthy and make her more profitable."

The Cultivator knows, from observation and examination, that not one

SUNNY SIDE STOCK FARM
Berkshire and Poland China Hogs Shorthorn Cattle
Call and see the stock. Six miles from Sacramento, one-half mile from Perkins.
G. A. MURPHY, PERKINS SACRAMENTO CO., CAL.

GEO. C. ROEDING, BREEDER OF HIGH-GRADE
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows
FRESNO, CALIFORNIA

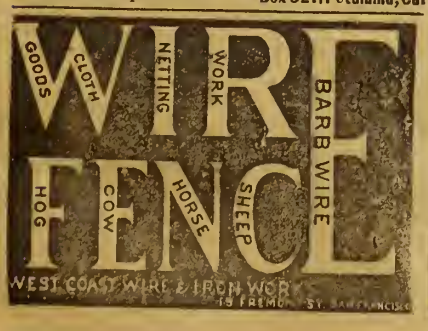
Thoroughbred Poland China Swine and Black Minorca and Barred Rock Poultry
High grade stock of best strains Young stock for sale M. BASSETT, HANFORD, CAL.

BERKSHIRE BOARS, All Ages
T WAITE, PERKINS, CAL.

The San Gabriel Valley Herd of
Ohio Poland China Hogs
Won 25 ribbons, 2 Gold and 2 Silver Medals at State Fair at Sacramento, Cal., in 1904. The great imported boars, Chief Guy and Ohio's Chief, at head of herd Also Black Minorca chicken eggs in season. Stock for sale, also bred sow W. R. McCASLIN & SON, Walsh Station, Sacramento County, Cal.

Registered Shorthorns
—MILK STRAIN—

El Capitan
Quantity and quality—Lady Lee .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
John Lynch
Box 321, Petaluma, Cal



Sharples TUBULAR CREAM SEPARATORS
Demand a Look Inside

DAIRY TUBULAR BOWL—All Apart
"Bucket bowl" separator makers falsely claim to make separators with light, simple, easy-to-wash bowls. We are the only makers who dare show a picture of our bowl—all others refuse. There are secret difficulties about other bowls the makers want to hide. Pictures would betray them. Other makers fear pictures. Our handsome Catalog Z-260 tells these secrets. Write for it today.
THE SHARPLES SEPARATOR CO.
Toronto, Can. WEST CHESTER, PA. Chicago, Ill.

COL. J. M. C. MARBLE, Pres. E. E. MOORE, V. P. and Gen'l. Mgr. J. E. MARBLE. J. E. FISHBURN W. C. MARBLE, Secretary.
STERLING MILK COMPANY
INCORPORATED
REGISTERED JERSEYS REGISTERED HOLSTEINS
REGISTERED BERKSHIRE HOGS THOROUGHBRED HEREFORDS
Farms in Los Angeles and Riverside Counties Young stock for sale at all times.
PHONES: Sunset, West 158; Home, Ex. 158 OFFICE: 1158-70 San Pedro Street LOS ANGELES, CAL.

DAIRY AND CREAMERY SUPPLIES ARE OUR SPECIALTY
AND WITH THE DE LAVAL SEPARATORS
we are placed in an advanced position to furnish the latest and best goods for every branch of the Dairy and Creamery business. The newest, the latest and the best always in stock. Our complete Catalogue mailed free.
DE LAVAL DAIRY SUPPLY CO.
9 and 11 Drumm St., San Francisco 107 First St., Portland 112 2nd Ave. South, Seattle

in twenty of the California dairy stables are built as the laws of sanitation require. They are too small, cattle are crowded into them with no attention to hygiene principles whatever. While it is essential to have warm stables in California even, during the cold months, it is just as necessary that ample allowance shall be made for fresh air. Most every man knows that cows must be kept warm if they are going to give their best profit. Accordingly the farmer will shut the cows up at night in a close stable in order to keep in the heat and by morning it is enough to knock a man down when the stable door is opened. No better breeding place for tuberculosis could be found than such a stable, if there is one diseased animal.

WORLD EATING UP ITS SHEEP.

The sheep growers in California may be encouraged by the fact that the price of wool and mutton is tending upward. "Many cannot understand this," says the Dakota Farmer, "and not knowing the facts are disposed to predict a sudden and disastrous reaction. We confess that for a time this was our personal view of the matter, but the more we look into the situation the more we believe that good sheep will be extra good property for a long time to come, tariff or no tariff. There will be spots where the demand is not felt evenly, and prices may go off a little, but the country over, the demand will be strong.

Consul Williams of Cardiff, Wales, has made a report on the sheep situation covering a wide range of country. This report is almost startling, but being from an unquestioned authority is well worth studying. Mr. Williams says:

"The world is eating up its sheep. Its flocks have been declining for three decades, and that decline has become perceptible in so many countries that it is regarded as the most remarkable agricultural movement of our times. A number of independent causes have co-operated to bring about this result. The first to be noted in the modern method of studying Hebrew history and literature. This has brought to light the fact of the preponderance of mutton in the meat diet of the Hebrews from the earliest times, a preponderance that accounts in part for the character of their civilization, and their persistence as a race. The dread of tuberculosis and pleuro-pneumonia in some countries, and of trichina in others, has led to the substitution of mutton for other meats by several classes, especially those influenced by the lurid accounts in the sensational press. The high prices of beef in recent years has forced many others to make a like substitution. But the principal cause of the decline of sheep has been the movement of the agricultural population to the industrial centers in the towns and cities. This class, with an already acquired taste for mutton, is able to gratify that liking to a greater degree in the town than in the country, both on account of the better opportunity offered by the open market, and the increase of its purchasing capacity by the higher wages paid in the towns.

THE HAY CHOPPER.

In the northern part of California the cattle feeders as well as the dairymen are using with much success, a machine to chop their hay. It is called a hay chopper, and is specially applicable to the cutting of alfalfa.

An exchange gives these points of value in the machine. It costs about $700, and will chew up 150 tons of alfalfa per day at a cost of about fifteen cents a ton for the chopping. Some growers chop the hay direct from the windrow while others stack it in the regular way and cut as they need it through the feeding season. The former claim that they can put hay into a stack through the cutter just as cheaply as the long hay can be ricked. It is an easy matter to put 2 1-2 tons of chopped hay in the space required for one ton of long hay and it is so compact that it is almost impervious to water.

We have not seen the machine, but from the description it must be convenient to handle and it certainly ought to be a very great saving on hay. It is estimated that it costs fifteen cents a ton less to feed it than the long hay. One would naturally think that this fine chopped hay would all blow away or at least would waste badly when handling it in the wind, but strange to say, it does not waste like long hay because it lays so compactly. No difficulty has been experienced in keeping the hay cut direct from the field. It is very noticeable by those who have fed both ways that cattle feed much quieter on the cut hay. They soon learn that it is all alike and just as good at one place as another, and are not continually chasing about and fighting each other away, dragging a bunch of hay along and dropping it as they run. It is claimed by those who have tried it that with cut hay as many horned cattle can be fed in a given space as of dehorned ones on long hay.

NEW DAIRY BUILDING AT AMES.

The new dairy building at Ames, Iowa, will soon be finished and when fully completed it will have cost $60,000. The building is being equipped with all kinds of dairy machinery and dairy utensils. A dairy laboratory is also being furnished and the entire inside furnishings will have cost $10,000 when completed. The building will be one of the best of its kind in the United States. In addition to this improvement at the Iowa State College, a farm has been purchased for which 100 cows will be obtained as soon as posible. It is evident that the State is beginning to realize the importance of the dairy industry to Iowa.

SHELTER THE COWS.

The last few nights have emphasized the importance of having warm barns for dairy cows. Although we are in California we are not immune to cold nights now and then, and our animals feel the cold keenly, as is shown in the lessening of the milk flow. When these nights of wind come let the cows be well protected else the feed will have to be increased and even then the milk flow will be diminished.

WHERE CALFALFA IS MADE.

Popularity of the green food known as alfalfa meal sometimes, although more generally as "Calfalfa" has become more widespread as more people have tried this food with stock and with poultry. It's advantage was recognized almost as soon as the first of the product was put on the market, and has been, and is today used by poultry men, but the use by the stock men is much more recent, but is now becoming more and more general. While its price, compared with the price of the ordinary alfalfa, seems high, yet when it is considered that in feeding alfalfa hay much of the coarse straw is thrown out and wasted, while with calfalfa not a particle need be wasted under any circumstances. It is finely pulverized, consequently every little grain of it is digestible.

Mr. Madsen, the manager of the California Stock Food Co. at Fresno, recently showed the writer the courtesy of a look through the works where the meal is produced, and it was indeed interesting to see the various processes through which the hay passed, coming from the wagon as loose hay and going into the car at the opposite side of the works sacked as "Calfalfa."

The hay delivered from the wagons as they stand within the large warehouse is picked up by large hay forks, which carry the hay up near the table of the first cutter. As it leaves this machine it is found to be cut in lengths of two or three inches, and of course more or less broken up. From this machine it is taken in a large pneumatic tube and carried to a second machine, where it is pulverized into the fine dust-like product which is seen in the sacks as ordinarily in the market. From this it is carried in another pneumatic tube to the bins, from which it is automatically weighed and sacked, each sack containing exactly the same amount of meal. From the weighing table sacks are piled back in the storeroom, later to be trucked into the car and sent to all parts of the State.

When the hay is perfectly dry and in good condition for pulverizing, 100 horsepower is sufficient to carry on the work of pulverizing, but if the least bit damp so that the machines clog it has to be placed in kilns and dried before grinding.

Alfalfa hay is not a complete ration. The best results are got by feeding it with corn fodder, ensilage, wheat, or straw or roots. Alfalfa contains large amounts of protein.

Six to ten bushels of seed is the usual yield per acre.

Keep the weeds mowed or raked off the first season or they will choke out the crop.—Ex.

The gratifying news of the securing of the necessary 50,000 acres to warrant undertaking the organization of a Water Users' Association, says the Orland Register, has been received.

Waite, Bailey & Lynch, buy, sell, exchange, repair and install gasoline and steam engines, boilers, air compressors, power pumps, etc. Otto gasoline engines, all sizes, to 200-H. P., better built, more economical, therefore superior to all others; prices and terms that will insure due consideration. 943-945 N. Main st., Los Angeles, Calif.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

Must be Sold by January 1st, 1906

Having sold my ranch, I am forced to sell 40 head of Registered and Grade Jerseys. Ten registered cows, milking now; 4 young heifers, eligible; 8 bulls, registered or eligible; 18 cows and heifers, pure bred and grade, not eligible. This herd represents some of the best blood on this coast. Parties wishing to see the stock can take Santa Ana electric car and get off at Hansen. Station is right at the ranch.
W. J. Cole, R. F. D. 1, Anaheim, Cal.

BULL FOR SALE

Having sold my ranch I am forced to sell Golden of Biltmore 60082, a grandson of Golden Lad's. Golden of Biltmore is one of the best, ***if not the best*** sire on the coast several of his daughters less than two years old selling for over $200 each. Highest bidder for next sixty days takes him. If everything is not just as represented, I will give anyone the ***bull free of charge. I sell on merit.***
C. S. Burgess, Riverside, Cal.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
leads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.

VENADERA HERD
OF REGISTERED JERSEYS

Offers sons of Marigold's Exile King, out of cows that are now making high official yearly records. For particulars write
GUY H. MILLER, RIVERSIDE, CAL.

The Whiting Jersey Stock Farm Co.

Have moved their herd of Jerseys from San Bernardino, Cal., to the famous Imperial Valley, and hereafter their post office address will be Heber, San Diego Co., Cal., from which they will conduct all their business. Abundant green feed every day in the year will be of great advantage in the best development of our young stock.
Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

LEMONITA HERD
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT, 316 E. 8th St., Los Angeles, Cal.

Oakhurst Jerseys

Sons of imported Golden Marquis out of prize winning and tested dams. for sale.

L. Bradbury Duarte, Cal.

Kings Victor King of St. Lambert

At head of herd. Young stock for sale.
H. N. WILLIAMS COMPTON, CAL.

La Palma Stock Farm

We have some of the very finest Registered Poland-China Swine from 2 to 6 months old, both sexes, for sale. Also older boars ready for service.
Also a fine Registered Jersey Bull and Six Registered Cows for sale.
Write for what you want.
J. A. CAMPBELL, Buena Park, Cal.

Rose Comb Wh. Leghorns High-Grade Buff Orpingtons
Varian's Poultry Yards
P. O. Box 666. Home Telephone 1886
895 N. Catalina Ave., PASADENA, CAL.

STANDARD BRED BUFF ORPINGTON EGGS

$2 and $3. Fertility guaranteed.

N. HAYDEN - ALTADENA, CAL.

Blue Andalusians

Three distinct strains, the Cosh, Morse and Griffith. Eggs per 15, $2.50 and $3.50. Incubator lots this year, $7.50 to $15.00 per 100.
MRS. T. R. GRIFFITH
Phone West 841. 3111 Walton Ave. Los Angeles

S. C. Brown Leghorn Cockerels
SPECIAL SALE

40 at $2 each; 20 at $3 each; 15 at $5 each; 25 Exhibition birds from $5 each and up. Eggs from my best pens at $3 per 15; second pen, $1.50 per 15. Send for illustrated circular.
W. E. Mercer - - Ventura, Cal.

Buff and Black Orpingtons
Buff and Brown Leghorns
Indian Runner Ducks—Bronze Turkeys
Eggs and Young Stock in Season
W. W. Bliss - Duarte, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

A Happy New Year to all our readers! and may the new year bring prosperity in the chicken yards. The poultry industry is growing in this country every year, but there is still room for double as much as we now raise, especially in California.

No business will "run itself." To be "up to date" in any business requires industry, intelligence, perseverance and experience. May all of these be yours, and success in the coming year will surely crown your efforts.

* * *

THE COMING POULTRY SHOW.

In talking about our "Brooder Chicks" I had almost forgotten a promise that I made to some of our readers to talk about washing or preparing fowls for the show. I did not realize how near the time of the Los Angeles Exhibition has come. It is to be from the 8th to the 13th of January, so there is no time to be lost in preparing for it. About two months ago I advised every one who intended to exhibit to look carefully over their fowls and pull out all imperfect, stained or broken feathers. It takes a feather about two months to grow out to maturity. I also described how by gently manipulating any refractory feathers, such as a too high tail or feathers not folded properly in the wing, can be corrected. Combs can also be straightened by gently raising them to their proper position every day for some length of time.

Having two months ago decided just about which of your fowls were to compete for honors at the show, I advised you to have your scratching pens cleaned out two weeks before the time, filling them twelve inches deep with clean wheat hay or straw and keeping them full, the straw being so deep the hens soon get perfectly clean and glossy, for each time a hen scratches she covers herself and often her neighbor with the straw, and that slipping down her back or over her wings gives her a gloss equal to polishing with a silk handkerchief. I know it because I have tried it over and over again. I have washed white Plymouth Rocks for every show, and I think I may claim to be an expert at washing. I have also tried cleaning them, the same way I clean knitted or crocheted woolen shawls, with pure flour or white corn meal, but in my estimation nothing comes up to making the hens do the work themselves by keeping them in deep, clean straw.

Now I will tell you about the washing of white fowls exactly the way I did it. I had read in the Eastern journals that an expert man could only wash four white fowls in one day. I had also read that the room in which they should be washed must be kept at a temperature of 110 degrees F., and that it was absolutely necessary to wash the fowls if one was to even hope to win a prize.

The reason given for keeping the room so warm was that if colder the feathers when dry would not be fluffy but would look rough or stick together. This I found to be true, and at first I had great difficulty in getting the room up to the desired heat and keeping up the heat, until I resorted to the plan of heating up my smallest brooder house by putting in two coal oil stoves and then had no more difficulty as to the heat. The directions for washing orders three tubs to be ready, the first containing good warm suds, the second lukewarm water and the third cold water with a little blueing in it, not quite as much as for blueing white clothes.

I found by experience that it was easier to use the clothes boiler for the first tub as it was a better shape and deeper. I first cup up a bar of Ivory soap, dipped enough of this into the boiler to make a good suds. Had these suds just as warm as I could bear my arm in. The articles I found necessary were a sponge, a good sized bit of flannel for a wash rag, a nail brush and another bar of Ivory soap and a half dozen clean linen towels, three wash tubs and the boiler. In the boiler were the hot suds, first tub warm water, second tub cooler, third tub cold blueing water. The reason for using an extra tub was because the first time I washed fowls I did not rinse out all the soap and when I dipped them into the last water all the blueing stuck to the feathers and I had such blue fowls I had to leave all but one at home, and he was the laughing stock of the show. After that time I took good care to use an extra tub and rinse out all the soap.

The day on which I commence to wash the birds I catch the four I want, put them into a coop ready, then having prepared everything and finding the temperature right, the thermometer standing at 110 degrees, I take the first bird, usually a cockerel, holding him with his legs between the fingers of my left hand, his breast on the palm of that hand and my right hand on his back, I gently lower him into the suds in the boiler. A look of surprise comes into his eyes, but he does not struggle, sometimes even pecks at the bubbles. I gently sponge down his back and wings. When he is thoroughly soaked I begin to scrub with the soapy flannel and use sometimes the nailbrush on very dirty spots. I wash first one wing thoroughly, spreading the feathers and seeing that each feather is clean from the skin out, then the other wing, then the back and tail, then the breast and fluff, and lastly the head and neck, being careful not to let the suds get into the eyes. By this time the bird is nearly asleep, the warm water and rubbing making him drowsy, when he seems perfectly clean I take him out, gently squeezing the suds out of him, and put him into the first tub. Here I take the sponge, rub and sponge him very thoroughly for a few minutes and then put him into the second tub, rinsing his wings up and down. When I think he is perfectly clear of soap I pull out a feather and putting it in my mouth taste it to see if there is a suspicion or slightest flavor of

INDIAN RUNNER DUCKS
A Specialty. Eggs, $1 for 13, $3.00 per 50, $5 per 100
C. A. McDONALD, BEAUMONT, CAL.

BARRED ROCKS, WHITE MINORCAS, INDIAN RUNNER DUCKS AND WHITE HOLLAND TURKEYS
Prize winning birds at Central California Fair, where 7 firsts were won in '05.
JOE McDONALD, R. F. D. 2, HANFORD, CAL.

Choice Alfalfa or Chicken Ranch
Twenty acres good sandy loam soil, no alkali, abundance of water, 5-room house, large barn and incubator cellar. Near Anaheim.
WM. A. GREEN, BOX 401, ANAHEIM, CAL.

White Plymouth Rock Poultry Ranch
Eggs for hatching from First Class Stock, $6.00 per 100, $1.50 per setting 15 eggs.
J. T. DAVIS, Prop. POMONA, CAL.

EGG FOOD A·C·W IT FILLS THE BILL

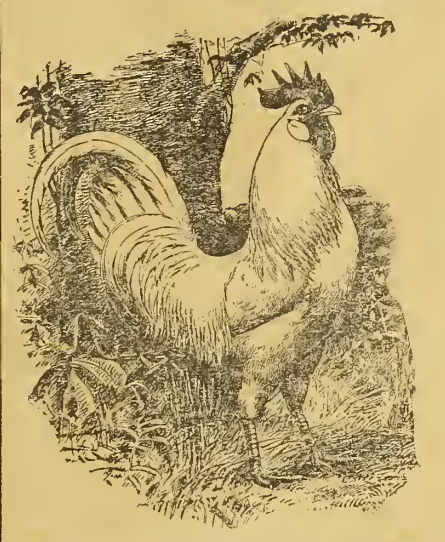
OTHERS SAY

That the A. C. W. Egg Food is the best that ever came into the State. It is a good idea to listen to what "the other fellow" says. We are not saying this. Hundreds of customers who use our food and sell eggs at 50 cents per dozen, say it for us—it sounds better. ***ASK THEM***

FEED THE A. C. W. EGG FOOD

straight as a mash, or three-quarters Egg Food and one-quarter bran. You need not take our word for the results, which are truly wonderful. Try the food and be convinced. If your dealer cannot supply you, write us direct.

Agricultural Chemical Works, Mfrs., *901-907 Macy Street Los Angeles, Cal.*
PHONES: HOME 6063; BOYLE 3. Write for Bulletin No. 1, "Roup and Its Cure." FREE,



Winner New York, 1904, score 97½. Used as a model in the American Standard of Perfection.

Farm at Clearwater on Santa Ana Electric Line

W. W. HOWARD'S
S.C. WHITE LEGHORNS

Best Strain, Best Birds.
Greatest Layers. Largest Eggs.
WIN THE BLUE AT THE ST. LOUIS WORLD'S FAIR.

FIRST PRIZE HENS, St. Louis World's Fair; also at Madison Square Garden, New York's Great Show, 1905.

All specials and medals—best hen, best head, pure color.

FIRST PRIZE COCK At Madison Square, New York, 1905, and beating St. Louis World's Fair and Boston winners.

FIRST PRIZE PULLET at Madison Square Garden, New York, 1905, as well as one of the best cockerels in the U. S.; were sired by our famous Rob Roy Jr.

Our patrons report grand success with pullets from our stock; 26 eggs per month, 56 eggs in 64 days, 18 eggs in 19 days; eggs that weigh 2½ to 3 ounces.

229 eggs already this season.

Improve your flock with one of our large, beautiful White Cockerels.

Birds and eggs for setting. Price list mailed on application.

THE W. W. HOWARD CO.
(State Vice-President National S. C. White Leghorn Club)
2329 Hermosa St. Phone West 3999 ***LOS ANGELES*** Home 24902

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

BUYS THE WORLD'S FAMOUS EGG FOOD NO. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER

Used by all the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and brood. Hence their ever increasing popularity. Winners of the GOLD MEDAL at the St. Louis World's Fair for greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1604.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A FILCHER, Commissioner.

And Now Comes New Reward for Merit:

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

PETALUMA INCUBATOR CO.

Main Office and Factory, Petaluma, Cal., Box F. Los Angeles, 505 South Main Street
San Francisco Office and Salesroom, 33 Market St.

soap, and if it is perfectly clean I then plunge him into the cold blueing water, holding him this time by the wings and dipping head and all well under. Taking him out again I squeeze the water out, passing my hands downwards the same way the feathers go. I then take a towel and wipe him down. Then seizing him by the legs half throw him up to make him flap his wings. This shakes a great deal of the water off. I then take towel after towel and wipe him as dry as possible. I then give him a pill of half a teaspoonful of cayenne pepper mixed in a little butter to warm him up, and put him into a clean coop with white sand in the bottom. He soon begins to shake and plume himself, and in a few hours is dry. I give him wheat to eat and before night also water to drink. Whilst he is drying I proceed to wash the pullets exactly the same way. You can easily understand why only four can be washed in one day. They all must be washed before noon in order that they may be perfectly dry before sun down, otherwise they will be almost certain to take cold and their feathers will look rough, and the judge will cut them as "out of condition."

In the afternoon of the same day I clean the legs and feet. These have been well soaked and washed during the morning operation, or if I have not washed the birds I still clean the feet and legs by giving them a good scrubbing, using an old tooth brush or nail brush and clean, hot suds. I then hold the fowl on my lap and clean each scale on the feet and legs with a toothpick or sharpened match or my own nail cleaner, just as I would clean my own finger nails. It takes about an hour, sometimes more to clean under each scale. I then wash off again and rub the legs with a small bit of butter, wiping it all well off so that the dust will not stick to it.

I rarely trained my fowls in exhibition coops to be handled or pushed around with a stick, as many advise; because all my fowls were accustomed to being kindly and frequently handled, and the White Plymouth Rocks, my special breed, are of such a gentle, happy disposition (hens have characters and dispositions as well as human beings) that they did not require special exhibition manners to be inculcated as the Mediterreancans do. "Grandma likes her fowls to be friendly, so you must not scare them!" I heard my little grandson remark to a stranger. My fowls are all friendly, and so are not afraid in the show room, but it is a good plan to keep fowls for a week or two in exhibition coops, and to push or move them with a small rod or stick many times a day, each time regaling them with some little delicacy, such as a bit of green lettuce or some meat, so that whenever they get a push they expect something good in return and walk bravely up in front to receive it, instead of cowering in the corner. I have also trained fowls to stand upon a small table and be stroked down. Fowls at first do not like to be touched on the top or back of the head, but they like to be stroked or quietly rubbed under the chin; so it is best to begin there and gradually accustom them to being handled many times during the day.

I have frequently tamed the wild and beautiful Red bird in two days by putting the cage on a chair in the kitchen where the whole family was passing and talking, familiarity and kindness quickly tames any bird or fowl. The use of trap nests will keep the most nervous of hens perfectly tame. They get used to being handled, and, finding that it does not hurt them, will soon become gentle and tame.

I did not like the idea of using flour to clean the hens, as, if it got in the least damp or wet it pasted the feathers together. One man advocated chalk for cleaning white fowls, and another said he tried paroxide of hydrogen. I never used anything but Ivory soap. I saw some fowls on which borax had been used; they looked yellow, and I would not advise the use of borax or soda, or any of the soap powders.

* * *

EDITOR'S QUESTION BOX.

Scaley Legs, etc.—(A. L. Campbell.) Will you please tell me through the Cultivator how I can get the scales off of scaley-leg hens. Many of my pullets are just getting the disease; I suppose from three hens that had it when I bought them. These hens' feet I soaked in warm soapsuds, but the patience of the hens as well as my own gave out and no good result followed. I am now greasing them with vaseline and sulphur, but this seems hopeless as well as endless.

(2) Nearly all my February and March pullets are moulting. Is this usual or are mine an exception to the rule. I have not changed their feed and they have every comfort I can give them.

(3) My best pullet lays such thin-shelled eggs that I cannot set them. She has free range, Maryland grit and plenty of shells. Can it be remided, and if so, how?—A. L.

Answer.—The scales come from a small insect which lives and breeds under the scales of the feet and legs. It keeps on burrowing in deeper and deeper until it has been known to even destroy the bone. The usual recipe for killing in scabies is equal parts of coal oil, lard and sulphur well rubbed in every two days. Some people merely dip the feet and legs into coal oil. This I consider too severe, as it burns and lames some fowls. A certain and sure cure in usually one application is to rub well in and press as much as possible under the scales common mercurial ointment. This usually cures at the first application, so it would not try your patience. Keep your perches painted, once a week, with Lee's Lice Killer. This will kill any wandering scabies and stop the infection.

(2) You fail to mention what breed it is that is moulting. Mediterraneans hatched before April frequently moult the next fall. The American breeds usually do not, but much depends upon the food and care.

(3) Thin-shelled eggs are due sometimes to a lack of lime in the food, sometimes to the hens being overfat, occasionally to enfeebled constitution or to inflammation of the shell-forming chamber of the oviduct. Over stimulation of the egg organs by the use of pepper or the so-called egg foods will have this effect. Worms in the intestines may also produce irritation that will affect the oviduct. The treatment is to remedy the cause. If from lack of lime supply more oyster (not clam) shell; if from over-fat, feed more alfalfa and animal food and less grain. One or two doses of sulphate of magnesia (one heaping teaspoonful to a pint of water) kept before the hens for a day twice a week will help to remove the fat. Feed a properly balanced ration and do not try to increase the egg yield by using stimulants that irritate the organs of reproduction.

The first annual exhibition of the Hawiian Poultry Association was held at Honolulu Dec. 7, 8, and 9, and was a most unexpected success. The general interest and the large number of birds shown proved a pleasant surprise to our insular fanciers, and they are to be congratulated upon having awakened such an unusual interest in the poultry industry.

The Los Angeles County Poultry Association has abandoned its show for 1906, and united its forces with those of the Poultry Breeders' Association in a joint "round up" poultry show to be pulled off January 8-13, 1906.

Get after the lice and mites. They multiply fast, cut down the egg yield, and make life a burden to the hens.

BLUE RIDGE POULTRY YARDS WM. H. BROWN, Prop
Exclusive Breeder of Thoroughbred BLUE ANDALUSIANS
Eggs, $2.50 and $3.00, per 14 Exhibition and utility stock for sale 132 Ave 32, Los Angeles, Cal.

BUFF LEGHORNS
A few cockerels for sale. After Jan. 1 eggs from choice mated pens, $1.25 per 15
Chas. G. Miller, 40 Elm St., Watsonville, Cal.

Bronze Brown Turkey Gobblers For Sale
Weigh 25 lbs. at 15 months old. Prices—Gobbler and Hen, $12; Gobbler, $8; Hen, $6.
O. A. REEVE, Gilroy, Cal.

LINDGREN BROS. KINGSBURG, CAL. McPHERSON, KANSAS
BUFF LEGHORNS BARRED ROCKS
Prize-winners at Chicago, St. Louis, San Francisco and majority of prizes at Portland on Buffs. Choice Cockerels and Pullets for sale.

SQUABS PAY BIG MONEY
Require but little care. Our carefully selected, high-bred homers, at $1.40 per pair, start you right. You cannot purchase such excellent stock at this low price anywhere. Our booklet C tells all about squab raising. 10 cents.
Bay State Squab Co., Wakefield, Mass.

WILLARD POULTRY FARM
MRS. F. T. HUNGERFORD, MANAGER, HYNES, CAL.
At the last Los Angeles Show our birds won twelve prizes. At the California State Show, Nov. 27th, 1905, on I. R. Ducks, three prizes on four entries. White Minorca and White Wyandotte eggs, $1.50 per 15, $8.00 per 100. Indian Runner Duck eggs, $1.00 per 13, $5.00 per 100.

Single Comb White Leghorns
Thoroughbred Stock. Eggs, $1.50 per 15.
Send for illustrated catalogue.
John P. Boden, 136 Second Street, Watsonville, Cal.

SONOMA-AMERICAN INCUBATOR
Send for large circular fully describing these machines.
Sonoma-American Incubator Co., - Petaluma, Cal.

Walnut Grove Poultry Ranch
Standard Bred White Wyandottes, (Hay's strain). Eggs for hatching from carefully mated stock, $2 per 13; $12 per 100.
F. L. Hogue - Carpinteria, Cal.

Dean's Pacific is an Incubator built on scientific plans and has all the latest improvements. Every machine guaranteed. "Facts From Experience" and Catalog for the asking. Address Dean's Place, 2509 Central Avenue, Los Angeles.

Must Hatch Incubators and Brooders HAVE STOOD THE TEST
Manufactured at Petaluma, the Chicken Center of the World. Beware of Others "Just as Good."
We hatch and prepare little chicks, White Leghorns, for shipment to all points within sixty hours' travel of Petaluma Now is the time to place your order. When the chicks come high they are the most profitable. We also supply White Leghorn eggs for hatching. Prices for chicks and eggs on application. Write for Catalog B.
MUST HATCH INCUBATOR CO. - PETALUMA, CAL.

The Stockton Incubator
Is now manufactured under new management and is in every way put up as a first-class machine. Our 1906 model is a perfect working incubator, economical to run and gives a fine hatch.
Winner of silver medal at Pan-American, also medal at California State Fair. Write for circular and information.
Stockton Incubator Co.
Marshall & Barnes, Props. Stockton, Cal.

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original Dry Chick Feed. All others are worthless imitations. Chamberlain's Perfect Chick Feed was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,
Pacific Coast Agents. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.
Distributing Agents: FREDERICK BROWN, San Jose; CHAS H NEARPASS, San Diego; CHANNEL COMMERCIAL CO., Santa Barbara and Ventura.
When writing advertisers mention Cultivator.

Toulouse Geese

75 head of Fine Stock to select from. Write

H. O. Higgins, Box 741, Riverside, Cal.

WHITE LEGHORN COCKERELS

A few pure bred cockerels from heavy laying strains, $2.50, $3.50 and $5.00 each.

L. W. Clark, R. F. D. 4, Petaluma, Cal.

RHODE ISLAND REDS

Fine large stock, heavy layers, best of broilers. Eggs, $1.50 per setting.

J. D. Setzer, Northrup and Pedro Sts., San Jose, Cal.

Blue Andalusians For Sale

Several pairs and trios of handsome Blue Andalusians. Exhibition or utility birds. Eggs for hatching, $2 for 15. ***Mrs. J. S. Duff, 3145 S. Hoover St., Los Angeles, Cal.***

HIGH-PRICED EGGS

Every one would like them to sell, and can just as well have them. Security Poultry Food will make hens lay. WE GUARANTEE IT. Ask our dealer in your town. He will back our guarantee.

Security Stock Food Co. Minneapolis, Minn.

SQUAB BREEDING

and Fancy Pigeons. Largest stock on the Pacific Coast. Homers in 500 pair lots. Twenty (20) varieties of Fancy Pigeons. Safe shipments any distance.

THE OLIVE PIGEON LOFTS

P. O. Box 1177, Los Angeles, Cal.

BARRED ROCKS

EXCLUSIVELY

Send for 16-page 1905 Catalogue

H. R. CAMPBELL

Box O PETALUMA, CAL.

Eggs For Sale

Imported direct Indian Runner Ducks, prize winners in England. First prize winners at Haywards, Sacramento and Portland Lewis & Clark Exposition. Eggs, $3 for eleven.

Buff Orpington Ducks, prize winners.

Mrs. M. E. Plaw - Fruitvale, Cal.

BUFF ORPINGTONS and BARRED PLY. ROCKS

Pure Bred and High Types. Eggs. $2.00 per 14: 3 settings, $5; $7.00 per 100. Males, $3.50 to $5.00. Trios, $7.50. Pens, $11.00.

B. M Stone, - R. F. D. 6, Fresno, Cal.

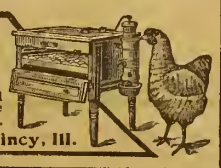
Breeding Cockerels

WHITE LEGHORN BLACK MINORCA

One hundred. Good Stock. A few pens of choice stock for sale. Write for prices

Avenue Poultry Yards Ventura, Cal.

$12.80 For 200 Egg INCUBATOR



Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.

GEO. H. STAHL, Quincy, Ill.

WHITE LEGHORN CHICKS, 10 Cts.
WHITE PLY. ROCK CHICKS, 12½c.

Both from good stock and in good healthy condition. The W. P. Rock males where I got my eggs are from prize winning stock. Leghorns are selected and have good markings. This is a fine time to start young chicks, after the rain; yards purified, green growth coming and mites and lice at a disadvantage.

Wm. A. Green, Box 401, Anaheim, Cal.

ALBERS' BLACK MINORCAS

Still Lead

——Circular Free——

GEO. R. ALBERS

4849 MARMION WAY LOS ANGELES, CAL

Mountain View Poultry Ranch

S. C. White Leghorns—Heavy layers. Eggs, $1.50 per 15, $5.00 per 100.

Indian Runner Ducks—Males for sale. Eggs, $1.00 per 13, $3.00 per 50, $5.00 per 100.

Mrs. J. L. Updyke - Fullerton, Cal.

Successor to Jacob Kreger

30 DAYS TRIAL

Buy From Our Factory—Save One-Third.

PRACTICAL INCUBATORS positively the best. Hatches more and stronger chicks. **10 YEARS' GUARANTEE**

Cat. free. PRACTICAL INC. CO., 720 S. 11th St. San Jose, Cal.

THE FRESNO POULTRY SHOW.

After attending the San Francisco and Alameda poultry shows it was the pleasure of the writer to drop in on the opening day of the Fresno Show, not nearly so large as the others, but at the same time many of the classes were well filled, and as a rule a remarkably good showing of birds was made. On this point Judge R. J. Venn said: "I can truthfully say, after being one of the judges at six of the Fresno poultry shows held in the past, that we have never had one before in the city that was near so good." In fact it was remarked that it was the best ever held in the city, and the attendance was far in excess of that of any of the past shows. This continued from the very opening day till 10 o'clock of the evening of the closing day. There were 600 paid admissions the first day.

There were three hundred entries. The Barred Rocks easily lead in numbers, next being S. C. White Leghorns, with Buff Leghorns and Buff Orpingtons following. The coops were all arranged in rows of one tier high, and the light was of the finest. Each bird was equally displayed to the satisfaction of all exhibitors as well as the public. The turkeys on exhibition attracted much attention, for it is very rare that birds so near the standard of perfection in this class get into the show room.

There was a large display of various makes of incubators and chick foods; also all kinds of chicken appliances, which was interesting to poultrymen as well as the sight-seeing public.

The judging was done by R. J. Venn, the other judge, Mr. B. M. Woodhull, was prevented from attending on account of sickness in his family. The ribbons were all up on the morning of the opening of the show, and special prizes and money were all delivered to winning exhibitors before the close of the show. Due credit for the fine show and its good management must be given to H. H. Holland, president, and Geo. R. Andrews, secretary, for they have worked hard both early and late to make the show a success.

SOME PRICE WINNERS.

Some remarkably fine Buff Leghorns exhibited at San Francisco and Fresno shows called for much attention by their beauty, and so far as the expression applies to poultry, perfection according to the standard. This stock was some of the same birds, and all the same strain as that exhibited at St. Louis, and later on made the winnings at Portland. The birds belonged to the Lindgren Bros. ranch of Kingsburg, this State. Mr. Lindgren informed the writer recently at Kingsburg that his winnings had been really surprising to himself, though he knew he had given much personal attention and care in breeding this fine line of birds. The results at St. Louis were most gratifying. At Portland he won first, second and fourth on cockrel, first and second on hen, first on pen, second and third on pullet. At San Francisco he won first pen, first and third pullet. At Fresno first and second cock, first second and fourth hen, first, second and third pen on the premiums for pullets.

These prize winners will now head his pen for the coming year's business. We may also add that at Fresno these birds won the ribbon from the American Buff Leghorn Association for best cock, cockrel and hen.

Standard Bred S. C. White Leghorns

EXTRA LARGE BIRDS AND HEAVY LAYERS. Eggs, $2 per 15; $8 per 100; $60 per 1000 from January until July only.

CAPTAIN MITCHELL SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25 cloth binding, on sale by Calif. Cultivator

WHITE CREST RANCH

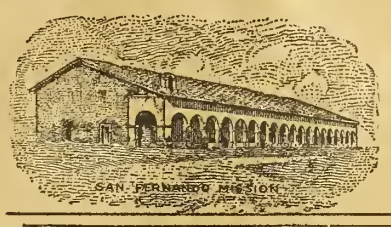
S. C. WHITE LEGHORNS WHITE PLYMOUTH ROCKS

No more stock for sale. Eggs are running 80% fertile. I am booking orders for future delivery, also supplying small orders on short notice. Get your orders in early, as there is going to be a big demand this season.

WHITE ROCK AND WHITE LEGHORN EGGS, $2.00 PER 15, $8.00 PER 100

My stock is utility and standard bred; customers everywhere attest their merit. There are no better fowls to be found East or West. Eggs and stock sold under an absolute guarantee.

W. S. Gibbs, Wilson Ave., Alhambra, Cal. Tel. Sunset Main 114



Mission View Poultry Ranch

MY SPECIALTIES:

WHITE WYANDOTTES
¼ WILD MAM. BRONZE TURKEYS
BUFF COCHIN BANTAMS

The original Adobe Incubator, capacity 3000 eggs. Adobe hut and cold brooder 360 feet long.

Mrs. G. D. Hubbard, Box 422, San Fernando, Cal.

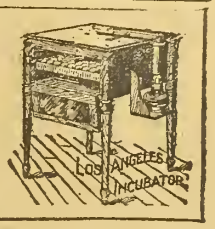
SUCCESS SEND FOR CATALOGUE

IS ATTAINED WITH

LOS ANGELES INCUBATORS

LEE'S LICE KILLER EGG MAKER | LARGEST POULTRY SUPPLY HOUSE IN THE U. S.

HENRY ALBERS 316 S. MAIN ST. LOS AGNELES



EGGS WANTED FOR HATCHING

Our big adobe incubator brings the best results. Send us your eggs and we will return the chickens.

YOUNG CHICKENS AND TURKEYS WANTED

We are prepared to buy all the healthy young chickens and turkeys you can send us and will pay above the market price. Ship by Wells Fargo express; we will pay the charges and remit balance to you promptly.

BAMBOO POULTRY RANCH AIKEN & CO. Props. ***GLENDALE, CAL.***

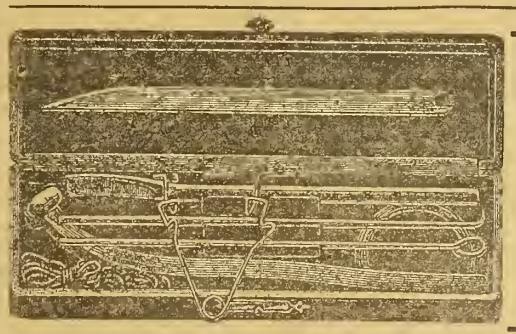
Emery's Pure Meat Meal

Ask your nearest dealer for them and take no imitations

Don't believe all we say, but just enough to buy our Poultry Foods

Emery's "B. B. & B."

THE PACIFIC GUANO & FERTILIZER CO. Successors to N. Ohlandt & Co **San Francisco, Cal.**



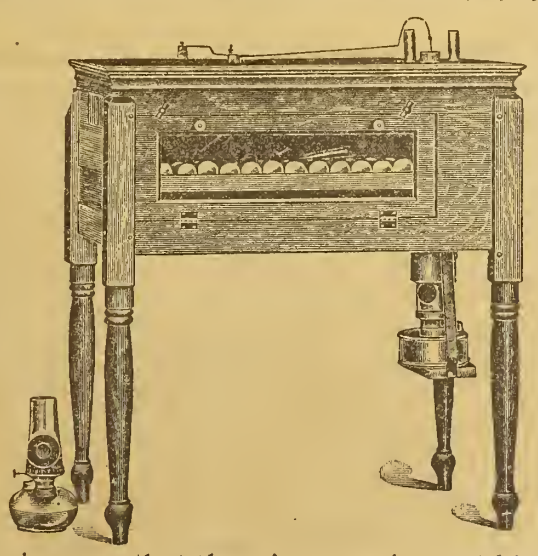
Caponizing Set

Double Your Profits by Caponizing.

Complete with Instructions, $2.50, Postpaid

STOCKMEN'S SUPPLY CO.

FRESNO, CALIFORNIA



Poultry and Eggs Wanted

In nearly every town in the State you will see this sign outside of a merchant's store and it will certainly convince you that there is money in producing poultry either for market or eggs. During the number of seasons the

CHATHAM INCUBATORS AND BROODERS

have been sold on the Coast they have been the means of assisting hundreds to make money out of their poultry and eggs— and the Chatham has given such a good account of itself that I have decided to sell it this year on our—On Time—terms, all freight charges paid Write me for descriptive catalogue.

Geo. W. Foott, *325 East Morrison Street., PORTLAND, OREGON*

THE PEAR THRIPS.

(Continued from First Page)

During the second larval stage of the young thrips a very decided change takes place. The second larva, like the first, feeds voraciously and after some three weeks the egg reaches a size often larger than that of a fully matured insect.

At this time it ceases feeding and fall to the ground. We have observed but few deliberately walking down the tree. Each individual goes into the tree separately, entering by some crack or worm hole, and having reached a secure depth it hollows out for itself a little cell,, and in this chamber it remains quiescent until the following year. Thrips get down into the ground from three to ten inches, according to the structure and condition of the soil; the prevailing depth is from four to five inches. They are scattered generally from a few inches to several feet from the trunk of the tree.

The pupal changes takes place in the ground in the same cell where the larva has spent so much of its time. We have not determined how long this stage lasts.

Orchardists know the adult insect best. It is the adult which comes to our trees in countless numbers and which does the greatest injury to fruit buds and blossoms. The mature insect, having wings, flies up from the ground to the tree and, if it finds the tree in suitable condition, at once begins to feed; but if it does not find the proper conditions, it moves on to other and better places. Thrips remain close during the day, either feeding or depositing eggs. They often leave the food plant just before sundown, and it is especially at this time that they migrate from place to place.

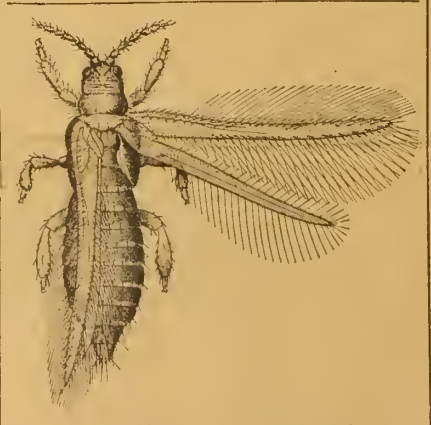
FIG. 7. Pear branch, showing the rolling and the cup-shaped deformities of the leaf; injury caused by the feeding of young thrips.

Spraying.—It has been stated with regard to killing thrips by means of various mixtures that whatever these mixtures are they must be thoroughly applied to do even fair service. We have learned from this year's experience that for this particular thrip spraying is a very unsatisfactory means of control. The insect is hard to reach because of its manner of hiding in bud or blossom, and difficult to kill without injuring the tree with the spray mixture itself. Because of its habits of leaving the ground, extending over a period of several weeks, and its habits of migrating, one might apply sprays and kill most of the insects on his trees and within a very few days find an infestation as heavy as before. The injury, as we have seen, is so rapid and fatal, taking but a few days (four or five) to ruin an entire orchard, that were we to depend on sprays all work would necessarily have to be done in a comparatively short time and repeated often, and this of course is impracticable.

It does not seem necessary at this time to give in detail the results of the spraying experiments which we carried on during the past season. Fourteen different formulas were tried, including various forms of soap washes and caustics, tobacco, sulphur, crude carbolic and creosote oils. The sprays were carefully prepared under the personal supervision of Mr. Budlong and myself, and applied with a Bean power outfit with the Bean Cyclone and Vermorel nozzles, under pressure of from 140 to 170 pounds. The results were very unsatisfactory. Exposed thrips would be killed, but those within the blossoms or buds showed almost no signs of injury. New adults and also young thrips,—for the young continued emerging from the stems and leaves where the eggs had been deposited,—appeared on the sprayed trees within a day or two after the washes had been applied; and after four or five days the trees revealed almost as heavy an infestation of both young and mature thrips as there was before any spraying had been done. No one wash proved satisfactory, and apparently under the conditions none can.. Sprays will doubtless be tried again, but they can only lessen the number of thrips with little or no appreciable results, and some injury to the tree is almost certain to follow.

Modes of Cultivation.—From the foregoing it might seem an almost hopeless task to check the thrips by either natural or artificial means. The insect, as we have seen, spends the greater part of its life beneath the soil, and this is probably the best time to attack it. After the larva is fully grown, it leaves the food plant and seeks a secluded place in the ground. On entering the ground it follows openings such as cracks, or holes made by insects or other worms, and reaching a depth of from four to six inches, though often deeper, it hollows out a small cell on the side of the larger opening, and thus securing itself, awaits further developements.

We believe that if the ground be thoroughly ploughed and cultivated during November, December and January, or before the insects leave the ground, which they begin to do by the first of February, many of these young thrips would be killed, or so disturbed that but few would ever reach maturity.



Pear Thrips, greatly enlarged.

Our present manner of cultivation is well adapted to give the thrips a long, undisturbed period of rest. During the late spring and early summer, when thrips are in the ground, we give the soil nothing but light cultivation, and as the insects are still in an active larval stage they seek another place of hiding, if disturbed. After this no cultivation is usually done until the last of February or March of the following year, by which time the insects have left the ground. While the plowing and cultivating method of control has not been thoroughly tried, we believe it gives more promise than any other yet suggested.

Summary.—The insect is single brooded. Adult females appear and begin to deposit eggs in February. After four days in the egg the young appear, feed for a time on the tree, then drop and enter the ground, where the greater part of the year is passed.

No effective natural enemies are yet known.

Owing to the insect's method of feeding, its habits of coming from the ground, extending over a period of several weeks, and its habits of migrating, sprays can be only partially effective, even where thoroughly applied .

We suggest winter plowing and cultivating, with careful working about the trees, so as to kill or injure the immature forms of thrips. This plowing must be done before the first of February, at which time the mature insects begin to come out from the ground.

JAPANESE HONEYSUCKLE

This Floral Wonder is the Latest Importation from the Land of the Mikado

Is a sturdy rapid climber and within sixty days after the time it is planted will drape your piazza with a brilliant mantle of green luxuriantlyspotted with beautiful white flowers turning to yellow. It blooms constantly—is never bothered with insect pests and in the Western parts of the states of Oregon, Washington and California holds its foliage throughout the entire winter season.

The plant is a genuine floral wonder. Its thriftiness, hardiness and prodigal bloom speaks volumes for the skill and plant-loving proclivities of the little brown people of the Occident who 've nurtured and improved this climber for so many years. We have imported a large number of these parent vines from Japan. They take root on this coast as readily as as they do in the native clime. If you are fond of beautiful climbers and appreciate something in plants decidedly bizarre and out of the ordinary, try some Japanese Honeysuckle on your porches and fences. You'll be charmed to see how beautiful this plant will make an ugly old fence or shed apppear.

IVY COLLECTION—No garden is complete without Ivy. We have a fine stock of healthy roots. The old favorites Boston Ivy—English Ivy—Kenilworth Ivy—and Variegated Ivy are 25c. per poot or the set of four for 50c.

CLIMBER COLLECTION—We will send you this whole collection of seven climber roots postpaid for $1.00 Japanese Honeysuckle—Kenilworth Ivy—English Ivy—Trumpet Creeper—Japanese Hop—Virginia Creeper—Boston Ivy.

Our shipments are all packed with extreme care. All roots are imbedded in moss and will travel ten miles or ten thousand miles with absolute safety. They will arrive in perfect condition; are ready for immediate planting.

TEAR THIS OFF, MAIL TO Chas. H. Lilly Co.

SEATTLE PORTLAND SAN FRANCISCO

Enclosed is $.....(in money order, draft, 2c stamps) for which send me (prepaid) items as checked below.

.....Japanese Honeysuckle roots

.....Ivy Collections

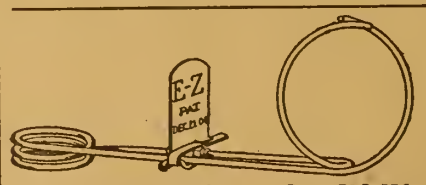
.....Climber Collections

Please send me (free postpaid) your Plant and Seed Catalog of 1906.

Name .....

Address..... ..... R-12

LILLY'S BEST 1906 SEED CATALOG, Richly-Illustrated; latest novelties in seeds and plants, poultry supplies, Cultivators, Fertilizers; teems with practical suggestions for nature-lovers. Largest, best printed and most comprehensive ever issued on the Coast. Value 20c. Mention this paper and ask for one FREE. Chas. H. Lilly Co. Portland Seattle San Francisco



Ask Your Dealer
for the E-Z Gopher Trap

If he won't supply you send 45 cents and your dealer's name and we will send you three sample traps. Best and cheapest trap on earth

J. A. W. GATES, 216-218 West Second St. Los Angeles, Cal.

Choice of

MANY ROUTES

East and West

SOUTHERN PACIFIC

SUNSET Via New Orleans and El Paso

OGDEN Via San Francisco

SHASTA Via Portland

Pullman Vestibuled Trains Daily. Personally Conducted Tourist Excursions via all routes every day in the week at Reduced Rates. The SOUTHERN PACIFIC gives you choice of many routes from the northern boundary of the United States to the Atlantic Coast, so that you may go one way and return another, with varied scenery and climatic conditions.

Full information at 261 S. Spring St., Los Angeles, or from any agent

SOUTHERN PACIFIC

Queries and Suggestions

STINGLESS BEES.

An "Anxious Subscriber" wishes to know where he may obtain stingless bees. This is a point about which all are anxious; who has them?

LOGAN BERRIES.

Editor Cultivator: Should Loganberry plants set out last spring be pruned this fall? If so how, and when.—H. Fallbrook.

You had better leave your berries until just after the next crop is off and then prune from eight to sixteen inches high. With dewberries the whole top is usually cut off after fruiting, close to the ground. Some have followed this course with Logans, but we do not know the result.

THE POTATO WORM.

Mr. Frederick Maskew of Long Beach, one of the best etomologists in the State, inform us that the so-called potato worm which a Santa Barbara correspondent writes about is doubtless not a worm at all, in the strict sense of the word, but the larvae of a caterpillar, coming from the potato tuber moth (Gelechia opunterella). This moth was first discovered in California in the early nineties, and has been spreading throughout the State slowly but surely ever since. It attacks only stored potatoes. The only remedy is to put the potatoes in tight bins and treat with bisulphide of carbon. The State University has issued a bulletin upon this pest, but we do not remember the number of same, but doubtless it can be had by writing to the Director at Berkeley.

POINSETTIAS.

Editor Cultivator: I have a poinsettia which I have had in a five gallon can since June, and is now budded. The body is about an inch in diameter and two and one half feet high. Do you think it should be put into the ground? Will it endure 28 degrees temperature? I found it would not endure the very hot sun during summer. The leaves wilted and some of the lower ones fell off.

Eleanor, Orland.

Your Poinsettia should not be planted out or disturbed until warm weather of spring, then put it in the ground. You are in error regarding the heat of summer; what your plant lacked was water. The poinsettia (Euphorbia pulcherrima) is a native of Mexico and wants the very hottest place you can find for it and is usually injured by frosts each winter, except in our most favored spots.

The plants should be cut back severely every year, late in the spring, just before the season's growth starts. The proper training begins with the young plant, which should be cut off one foot above the ground, the second year cut back the past season's growth to one foot and keep this sytem going for all time and you will have a finue, compact bush, which will produce a heavy crop of flowering heads. If left alone, they will grow up tall and spindling, and the flame-colored bracts which surround the flowers will be small in size and often pale in color.

The plant needs but little irrigation or cultivation except just before the flowering season. After they make their season's growth or about midsummer stop watering them and allow them to rest before making an effort to bloom.

ROSES FOR SUN OR SHADES.

Editor Cultivator: "Among my climbers, I have two that are not doing well, a Reine Marie Henriette and a Gloire de Dijon. The Henriette is on the north side of a porch facing east. It seldom blooms and when it does they mildew in the bud. The foliage is also affected. I do not over-water it. It does not get much sun. The Dijon is on the other side of the porch and gets sunshine most of the day. It does fairly well in winter, and the flowers are very large, but in summer it dies back, and does not flower at all. They are six years old. Had I better throw them away and plant other kinds, or can I do anything to help them?—Rose Fancier, Downey.

Great benefit would accrue simply from exchanging places with the two roses., The Henriette wants all the sunshine obtainable, though a house is a very poor structure on which to train roses if you wish good results, unless it be those varieties requiring whole or partial shade. Personally, we are not fond of Henriette, much preferring Climbing Souvenir de Wootton, James Sprunt of even the annual blooming Reine Olga de Wurtenburg, a glorious rose in its season. Our climate is too hot and dry for Dijon, if exposed to full sun. This rose should be given the sun only until 10 o'clock in the morning or late in the afternoon, when it has lost much of its power. Places can often be found where the rose could get a little sun at each end of the day, and none of the extreme heat. Such an exposure is best for Dijon.

"YOU MUST SHOW ME."

The above sentence is heard so frequently in business that we have come to believe that it is evident that it must have some deep meaning behind it. If a traveling man for some big farm implement house calls on a dealer in your town, the dealer says: "Yes, I'll try your drills, but you must 'show me' or give me back my money. If they sell well and stand the wear, I will want your line." This idea of "satsifaction or money back," is getting to be almost entirely the basis on which legitimate manufacturers do business. For some reason this "honor plan" of selling goods has never been applied to the scale of groceries and the various foodstuffs used on the farm. There is advertised in this issue the new idea as applied to the scale of a poultry food which is guaranteed to make hens lay and sold with the express provision that if it fails you get your money back. This food is called Security Poultry Food, and is put out by the Security Stock Food company of Minneapolis, whose goods are famous throughout the United States as being sold exclusively on the plan of giving every man his money's worth or his money back and letting him be the sole judge. Ask your local dealer to "show you" their guarantee.

Build up the country without tearing down our cities—build up the rural districts.

FOR SALE

One Holt 65 H. P. Agricultural traction engine, with extra wide wheel base, with water wagon, plow cart, and all necessary attachments.

One Holt Junior Combined Steam Harvester, fully equipped.

Six Stockton Five-Gang Plows, Disc, Seeder, etc.

All in thorough repair, and used but two seasons; for sale on account of lands being subdivided, and sold off by the Chino Land and Water Company.

Chino Land and Water Co.,
20 Trust Building
2nd and Spring Sts., Los Angeles

THE VERNON NURSERY
4524 Central Avenue, Los Angeles, Ca.
Deciduous Fruit Trees, Grapes, Walnuts, Figs. Peaches, Apricots, Plums, etc.
Phone: South 1105 A. YARNELL, Prop.

TREES!
80,000 Apple Trees in 42 Varieties. Extra well rooted. Clean. Grafted on whole roots and free from all pests. Also an extra fine stock of Prunes, Pears, Plums and Walnuts. Write for price list. *A. F. Scheidecker,* Proprietor Pleasant View Nursery, *Sepastopol, Cal.*

THE "BOSS" TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING CO.
2124 Willow Street Los Angeles, Cal.

SUCCESS
GASOLINE AND DISTILLATE
ENGINES
STAND EVERY TEST

PRICES—	2½	Horse Power,	$125 00
	4	" "	185.00
	10	" "	368.00
	15	" "	556.00
	20	" "	731.00
	30	" "	1,106.00

NOTE—After July 1, 1905, above prices take precedence over all previous lists.

M. C. TUNISON
1000 N. Main St. - Los Angeles, Cal.

If You Knew You Could Double Your Crop and Enhance Its Quality by Securing Plump, Fertile and Sure-Growing Seed, You would Do It Immediately.

If you will favor us with an order for any of the following sure-growing vegetable seeds, which we are offering at prices within the reach of all, your hope will be realized:

ONIONS—Prize-Taker. Pkt, 5c; oz. 10c; 1-4 lb, 40; lb, $1.35.
LETTUCE—Curled Simpson. Pkt, 5c; oz, 10c; 1-4 lb, 25c; lb, 75c.
CABBAGE—Extra Early Eureka. Pkt, 5c; oz, 10c; 1-4 lb, 35c; lb, $1.25.
BEETS—Improved Blood Red. Pkt, 5c; oz, 10c; 1-4 lb, 20c; lb, 50c.
CARROTS—Ox Heart. Pkt, 5c; oz, 10c; 1-4 lb, 20c; lb, 50.

If you plant these seeds you will get results in bounteous crops which will prove a pleasure and a profit.

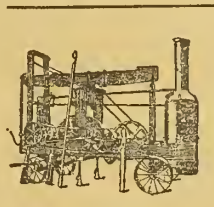
F. Gilman Taylor Seed Co.
BOX 14, GLENDALE, CAL.

A Sharp Razor
Makes Shaving Easy

If is a pleasure to shave when your razor is sharp. With "Every Man's Dry Hone" you can give your razor a keen cutting edge with a few strokes. It is a perfect hone, made for home use, and guaranteed to give satisfaction or money refunded. No water or oil necessary—self lubricating. Always ready.

Mailed on receipt of $1.00. Send in your order now, while you are thinking about it. Be ready for your next shave.

REDLANDS HONE CO. 70 Orange St., Redlands, Cal.



WELL DRILLING MACHINERY
Portable and drill any depth by steam or horse power. 42 Different Styles. We challenge competition Send for Free Illustrated Catalog No. 13.
Kelly & Taneyhill Co
13 Chestnut St., Waterloo, Ia

WOODMANSE STEEL WINDM LL
BEST MILL ON EARTH
On account of its removable bearings will pump more water than any mill on earth.
F. H. OSLER, POMONA, CAL., AGENT FOR PACIFIC COAST

THE RAPP FENCE
The Most Practical, Durable and Lowest Priced Fence on the Market.
THE ROEBLING CONSTRUCTION CO.,
Broadway and 23rd St.. New York
Write for Illustrated Booklet

HOEGEES' GREET YOU!
FARMERS
ORCHARDISTS
POULTRYMEN
RANCHERS

We wish you all a

MERRY CHRISTMAS

We thank you for your patronage in the past. We shall endeavor to serve you better than ever in the future.

and a
HAPPY NEW YEAR

MANUFACTURERS AND DEALERS IN
FUMIGATING & CURING TENTS, CANVAS, IRRIGATING HOSE, KHAKI SUITS, LACED BOOTS, GUNS, AMMUNITION, FISHING TACKLE, SPORTING GOODS

The Wm. H. HOEGEE CO.
Incorporated
138-142 So. Main St.
EX'S 87

THE LAUGH OF A GIRL.

When the sky is burning red,
When the evening breeze is dead,
And the lake is burning blue and gold and pearl;
And I sit in silence here,
From the waters, low and clear,
There comes the rippling laughter of a girl.

O, the melody it brings,
Like a fairy voice that sings,
Breathing rest to all the troubles in the world;
As I lean to hear it die
It seems to tint the fading sky—
A mighty veil of sunshine westward whirled.

And I wonder as I dream
Of the girlish laughter gleam
That has brightened life since Eden closed its door,
What caused that sweet refrain—
Was it happiness, or pain—
That cried to me a dreamer on the shore.

—By Stanley Richardson.

New Year's on the Old Plantation

Christmas was never celebrated to any great extent in the South back in the good old days "befoh de wah." New Year's Day took its place among the masters, and the prolonged, rollicking "co'n shuckin'" supplied the slaves of Kentucky and Missouri especially with all the jollity they desired. It was an institution peculiar to the South, peculiar not in being confined to those sections, but peculiar in the manner in which it was conducted, for husking bees have been known in New England since the mind of man remembers and Indian corn has been gathered.

When a "co'n shuckin'" was decided upon notices were sent out to the slaves of all adjoining plantations stating that on a certain night Judge S. or Squire B. would give a corn shucking of so many thousand bushels and all colored people, male and female, were invited to attend. Great preparations were made by "ole massa" and "ole missus" for the event, for, while they expected a good night's work in the shape of wagon loads of yellow corn, pleasure was to be the main part of the programme.

Supper was always provided on a large scale and generally consisted of two or three roasted pigs, turkeys and chickens, with side dishes of vegetables in equal proportion. Bushels of sweet potatoes were baked, boiled and fried, and hundreds of rich, golden pumpkin pies were turned out of the oven done to a mouth watering brown.

A band of musicians was engaged, for no "co'n shuckin'" would be complete without it. On those nights negroes worked not happily save to the twanging of the banjo and wailing of the fiddle.

A corn shucking always lasted three nights continuously on one plantation, and then the negroes moved on to the next, where three more were devoted to the corn of the owner, and so on until all the maize of the neighborhood had been husked.

About twilight the darkies began to arrive from all over the country, the "boys" clad in their suits of jeans with that pride of the darky's heart, his "long tailed clawhammer blue." Every negro who made pretensions to being "anybody" possessed one in more or less condition to wear.

The female portion of the gathering was coquettishly dressed in linsey woolsey frocks, with their heads tied up in flaming red bandanna handkerchiefs, the redder the better, and with a white handkerchief crossed upon their breasts.

They came in groups, and each party of huskers from a neighboring plantation was announced long before it arrived by the well known tunes prevalent in those days floating down the road and over the fields as the happy boys and women hastened to the gathering. A favorite tune was this:

Yes, we's gwine to de shuckin',
Yes, we's gwine to de shuckin',
We's gwine to de shuckin' of de co'n,
An' we'll be dar in de mo'nin',
An' we'll be dar in de mo'nin',
We'll be dar in de mo'nin', shuah as yo's bo'n.

As soon as the darkies were all assembled the oldest slave present went to "ole massa" and begged a piece of silver money. This was always expected, and a plantation owner would as soon have thought of having a "shuckin'" without corn as to be unprepared to produce the bit of silver on the first evening.

Taking this piece of silver, the ancient darkey returned to the field and there performed a ceremony the exact meaning of which has not come down to us. Whetting his jackknife upon the silver, he solemnly pronounced an invocation for a bountiful crop of corn the following year. And it is doubtful if the "ole massa" would have been any more willing to allow the husking to proceed without this kindly prayer than would his white haired servitor, who by this means thus once a year stood in the attitude of high priest to the family he served.

After the preliminary prayer the "twelve wise men" were chosen, and their first duty was to select two of the brawniest negroes in the company, who, when called out, with much pride at that distinction, indulged in a good humored contest of strength, which was known as "rasslin' fo' de capt'in." The victor became master of ceremonies, and upon him devolved the duty of seeing that no one shirked in the work or entertainment.

The matter of the captaincy being decided, the "twelve wise men" chose four big fellows, who formed a "pack saddle" by crossing their hands and the captain was elevated upon it and carried half a dozen times around the heaps of corn, while the darkies sang this melody or something akin to it:

When our days am done
Don't we darkies cut a shine?
When our days am done
Don't we darkies cut a shine?
Back to our cabins we will go,
Back in the early mo'n,
But we'll be here in de eb'nin'
To do de shuckin' of de co'n.

Then the corn shucking proper began. Stacks of fuel had been placed at intervals of a few yards near the corn, and after they had been lighted, under the supervision of the "twelve wise men," the fun began. As the corn was husked it was thrown into piles and would be hauled away in the morning. Twelve workers were selected for each heap of unhusked corn, and, as back in New England, the red ear was eagerly sought for, but with a different purpose. When a man got it he shied it at a big nigger's head, and if he hit the mark the unfortunate darky would not "marry for ten years." If by shrewd dodging he missed it his happiness would be crowned within a year. If a dusky belle secured a red ear she had the option of choosing a sweetheart from any of the darkies around the corn pile.—Cincinnati Enquire.

TWO COLLEGE BOYS.

Two boys left home with just money enough to take them through college, after which they must depend entirely upon their own efforts. They attacked the collegiate problems successfully, passed the graduation, received their diplomas from the faculty, also commendatory letters to a large shipbuilding firm. Ushered into the waiting room of the head of the firm, the first man was given an audience. He presented his letters.

"What can you do?" asked the man of millions.

"I would like some sort of clerkship."

"Well, sir, I will take your name and address, and should we have anything of the kind open will correspond with you."

As he passed out he remarked to his waiting companion: "You can go in and leave your address."

The other presented himself and his papers.

"What can you do?" was asked.

"I can do anything that a green hand can do, sir," was the reply.

The magnate touched a bell, which called a superintendent.

"Have you anything to put a man to work at?"

"We want a man to sort scrap-iron," replied the superintendent.

And the college graduate went to sorting scrap-iron.

One week passed, and the president, meeting the superintendent, asked: "How is the new man getting on?"

"Oh," said the boss, "he did his work so well, and never watched the clock, that I put him over the gang."

In one year this man had reached the head of a department and an advisory position with the management at a salary represented by four figures, while his whilesome companion was "clerk" in a liverystable, washing harness and carriages.—Selected.

ILL VENTILATED ROOMS.

The subject of ventilation is one which is often sadly neglected in the average home. There are many households where the moral and spiritual atmosphere is pure and elevating, yet where the hygenic properties are so bad that poison is inhaled into the lungs with every breath. Well furnished, artistically decorated, supplied with every seeming comfort, yet foul in that one most vital essential, the air we breathe, these rooms are poor abiding places for the growing children that nightly cluster around the table to study, or to engage in games and social converse.

The air of a room containing several people becomes quickly contaminated and unfit to be taken into the lungs; yet it is safe to affirm that in many homes windows are seldom, if ever, opened in cold weather except on sweeping days. The only air which comes into such rooms being admitted only as doors are opened in passing through.

"But it cools the house off so!" a lady remonstrated, when I delicately hinted that her room was close, and needed airing. When I went on to state that it is impossible to heat impure air, she gave me a blank stare.

"Air that has been breathed over several times becomes so vitiated that no amount of fuel will give it the genial warmth to be found in well aired and ventilated rooms," I went on to say. "You complained a few minutes ago that the room was cold. Try opening the windows, to warm it." I suggested.

As I spoke, I threw up the three windows in the room, and opened an opposite outside door. A current of cold air immediately swept through the room causing my friend to rush for a shawl, lest she should catch cold.

"No need of that; we will leave the room for a while," I said, leading the way to an adjoining apartment.

When we went back, ten minutes later the air was fresh, but cool. In a few minutes, however, my friend acknowledged that the room was warmer than it has been before that day.

I advised this mode of procedure as a daily occurence, to which she readily acceded.

"Do you suppose this will make any difference in Elsie's head? She has complained a great deal, lately, of a dull, heavy feeling nights, when she is studying."

"I have not a doubt of it. Children are much brighter and can learn their lessons more easily in a well ventilated room. I speak from the experience of a teacher," was my final assurance.

I met this same friend a week or two later, and had the satisfaction of hearing her exclaim, as we met: "That ventilating scheme has worked wonders. Elsie has not complained of headache for a week; and we all feel 10 per cent. better since I have commenced to open windows and let some fresh air into the house."—Helen M. Richardson in Successful Farming.

LION AND DOG.

Little Willie told his mother that a lion was on the front porch, but when an investigation was made it was found to be the Newfoundland dog, which had been newly sheared.

"Now, Willie," said his mother, you have told a very naughty story, and you must go up to your room and pray for forgiveness, and remain there until the Lord does forgive you."

Willie promptly obeyed, but was gone only a few minutes before he came tripping back.

"Did the Lord forgive you?" asked his mother.

"Yes," was the reply, " and He said He didn't blame me either. 'cause when He first saw it He sorter thought it was a lion Himself."

OPIUM and Whiskey Habits cured at home without pain. Book of particulars sent FREE. B. M. Woolley, M.D., Atlanta, Ga., 103 N. Pryor St.

The Green-Marshall Co.
Manufacturers
and Wholesale and Retail Dealers in
Paints, Oils, Varnishes and Painter's Supplies
So. Cali. Agents for Berry Bros. Varnishes
550 So. Broadway, Los Angeles 42-44 N Fair Oaks, Pasadena
Also Long Beach Factory 15th and Alameda Sts., Los Angeles

Cookery Recipes

Chicken Biscuit.—A new and palatable dish is chicken biscuit. Dress and joint a plump broiler, salt, pepper and roll in flour, then put one and one-half cupfuls of boiling water into a small skillet, lay the fowl in and put in a lump of butter half the size of a hen's egg. Cover and set on the stove while you make some biscuit dough, that rolled half an inch thick will just cover the chicken and fit inside the skillet. Cut across twice with a sharp knife, set inside the oven and by the time the dough bakes the chicken will be done. A young broiler will be cooken in fifteen minutes, less time if the fire is hot.

* * *

Creamed Cabbage.—First slice fine sufficient cabbage and cook in plenty of water until very tender. Drain, and to a medium-sized cabbage add one pint of sweet cream. When it boils up remove from the fire, add a heaping teaspoonful of flour, stirred smooth in a little cold milk, and just before serving pour over it one-half cup of vinegar. Let it get hot, not boiling, and serve at once. This is very nice with the cream dressing alone, having much the taste of cauliflower; but the vinegar makes another dish of it entirely.

* * *

Deviled Eggs.—Deviled eggs are a particularly palatable dish and are prepared in the following manner: One dozen eggs, one tablespoonful of olive oil, one generous tablesspoonful of Fresh mustard, two heaping tablespoonfuls of cold boiled tongue, chicken or ham; salt and cayenne to taste. Cover the eggs with boiling water and cook fifteen minutes, then stand them in water until cold. Remove the shells and cut the eggs in halves. Take out the yolks carefully without breaking the whites. Rub the yolks to a smooth paste with the mustard and oil, the salt and peper, and mix well. Fill the whites with this mixture, put the halves together and press them. Wrap in white tissue, or paraffine paper, or fringed tissue napkins may be used, in which case arrange in a fancy basket and trim with delicate leaves.

COTTAGE CHEESE.

Cottage cheese is very palatable and nutritious and recent experiments indicate that it is more easily digested than fresh cheddar cheese. Farmers' Bulletin 202 contains some scientific directions for making this cheese from skim milk, whole milk, sour milk, etc. These recipes are elabrated from investigations of the chemical changes taking place in the souring of milk, etc.

If skim milk is used it should be kept at a temperature of 70 degrees F. until it is well curdled, which will usually require twenty- four to forty-eight hours. The curdled mass is then broken up by hand or cut by a curd knife and is heated gradually to 90 degrees F., and is kept at this temperature until the whey appears clear. When the heat is so applied as to require thirty or forty minutes to reach 90 degrees F, then the whey will separate clear in five to twenty minutes under normal conditions. The whey is then run from the curd and the curd is put in muslin bags or placed on racks and allowed to drain until whey ceases to come from the curd. The curd is then salted at the rate of about one pound of salt for 100 pounds of curd, or to taste, shaped into balls, and finally wrapped in oiled paper that may be obtained from any dairy supply house. For the finest quality of cheese the curd should be mixed with thick cream, preferably ripened cream, at the rate of one ounce of cream for one pound of cheese before being made into balls.

Directions are also given for the making of cottage cheese when a starter is used, when both a starter and a rennet are used together, and also when hydrochloric acid is used.

SETS OF CURLS.

The holiday girl likes to buy things in sets this year. She gets her collars and cuffs in sets, and when she purchases a new pair of evening slippers, she buys at the same time a set of different rosettes, so that she may wear the same slippers, and yet whenever she pleases, change their effect. And she is buying sets of curls, too, just think of it!—with no concern whatever she walks into a hair store, and asks for a set of curls. She generally designates her request by asking for a set of Turban curls, or evening curls. The new tip-tilted hats have brought about a craze for the Turban curls, and more than half of the smartly gowned New York girls are wearing them. They act as a sort of cachepeigne for the hat. The curls are mounted on a comb, and so can be easily fastened into the coiffure.—Grace Margaret Gould in Woman's Home Companion for January.

A DESCRIPTION OF OUR SAVIOR.

There has recently been brought to our notice this description of our Lord which we thought might be of interest to our readers. At the time when His fame began to spread in Judea, the Roman governor of that province, Publius Lentulus, wrote as follows to the senate:

"There is here at the present time a man of singular virtue, who is called Jesus Christ. The Barbarians esteem Him as a prophet, but His sect adore Him as a descendant of the immortal Gods. He restores the dead to life, and heals diseases by a word and his touch. He is tall and graceful of stature, His aspect is mild and venerable, His hair is of a color which can not be described, falling in ringlets below his ears and spreading over His shoulders with infinite grace. He wears it parted on the top of His head after the manner of the Nazarenes. His forehead is broad and smooth, his cheeks are tinged with a lovely bloom. His nose and mouth are admirably regular; His beard bushy and of the same color as His hair, descends an inch and separated in the middle it assumes the form of a fork. His eyes are beautiful, sparkling and clear. He reproves with majesty, and His exhortations are full of sweetness. Whether He speaks or acts, He does all with eloquence and gravity. He has never been seen to laugh, but has often been known to weep. He is very temperate, very modest and very wise. In a word, He is a man, who by His great beauty and His divine perfections, surpasses the children of men."—Hattie N. Connell in Western Farmer and Dairyman.

Some of our young men who stand around on the outside of the church doors puffing cigarette smoke will sometime stand around outside the gates of Heaven until they are closed, and then they will have to smoke somewhere else.

THE NEW YEAR THOUGHT.

To think the best of people, and not the worst, to say only kind and gracious words, to be brave and true and hopeful and undaunted, to rest on God's will as on a soft pillow, to keep the child heart to gray hairs, and to have the kingdom of heaven within you, are all parts of the duty, and belong to the birthright of good men and good women. To despair of none, to refuse help to none, to give, to lend, to love, to live for others, these are stepping stones to real happiness.—Margaret E. Sangster.

THE OLD FIREPLACE.

Said the old log fire: "I send the shadows flickering and dancing on the walls and sing to the little folks, and make bright pictures for them, as they watch my sparks go upward like fireflies in the night; and the old folks dream dreams of long ago, and hear the old, sweet voices, and see the old, loved faces in my flames. I bring them memories—some touched with tears, and others wreathed in smiles; and they draw closer to each other, and a deep sense of rest is theirs and sweetest sleep, that kisses down their dreaming eyes. I sing the stormy winds away, and the loneliness of the rain that dashes down the winter night. I am light, and warmth, and peace, and love, and rest."

WOE BE TO HIM.

George—I have been invited to a "flower party" at the Pinkies'. What does it mean.

Jack—That's one of the newest ideas this season. It is a new form of birthday party. Each guest must send Miss Pinkie a bouquet containing as many flowers as she is old, and study the language of flowers before ordering.

Florist's Boy (a few minutes later)—A gentleman left an order for twenty of these flowers to be sent to Miss Pinkie, with his card.

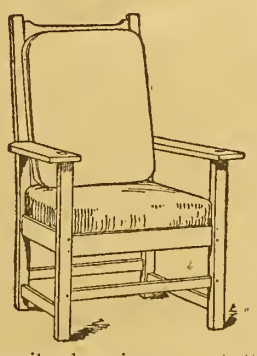
Florist—He's one of my best customers. Add eight or ten more for good measure.

SOUR GRAPES.

A gentleman wishing to send to a friend in England a present, chose a barrel of cranberries as his gift. It was in the early days before they had become well known in that country. To his surprise he received a letter from his friend in which he said: 'Your present of a barrel of berries arrived safelv, but we were obliged to throw them all away, as they had soured upon the journey."

"Dependable Furniture at a Fair Price."

True Mission Furniture



The Old Mission styles of furniture are the most favored and the most used now. The plain, simple lines and the peculiar finishes of the weathered oak and the dark rich mahogany are decidedly pleasing and are in strict keeping with the bungalow form of architecture which is so popular in this section of the country. There is a greater diversity of style and finish even in these special lines and just as great an opportunity exists for inferior workmanship. The mission furniture from the factory of the famous craftsman, Gustav Stickley, is acknowledged to be the finest in the country—made entirely by hand even to the smallest parts and every joint is mortised and pinned and made to fit perfe ctly We are agents here for this superior furniture and constantly carry a large and selected stock. All mail orders given prompt attention.

"All Goods Marked In Plain Figures."

NILES PEASE FURNITURE CO.

439-441-443 SO. SPRING ST., LOS ANGELES, CAL.

BURN AIR AND SAVE FUEL

You can do it with the

HAGUE IMPROVED DOMESTIC OIL BURNER

It burns more air than any other burner on the market. Can be fitted to stoves, ranges, furnaces, and all kinds of heating systems. Simplest and most economical burner on the market. If you want the most heat for the least money, write for information to

Hague Domestic Oil Burner Co., 810 So. Spring St., Los Angeles, Cal.

Security Savings Bank

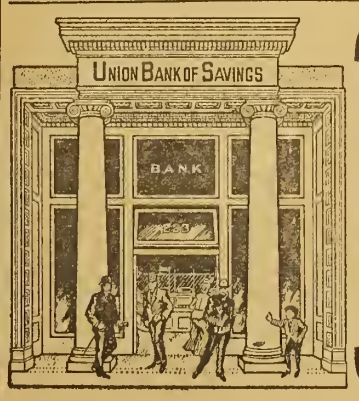
LARGEST SAVINGS BANK IN SO. CALIFORNIA

Those unable to visit the bank in person may open their accounts and transact all their banking business with this institution by mail.

4% INTEREST PAID ON TERM DEPOSITS

HERMAN W. HELLMAN BUILDING, LOS ANGELES, CAL.

Write for booklet "A" on banking by mail. Rainfall Chart and 112-page Atlas sent free.



Union Bank of Savings

RESOURCES $3,831,680.29

3% Interest Paid on Ordinary Deposits

4% Interest Paid on Term Deposits

Increase in Deposits since June 30th, 1904 $1,300,000.00.

Safe Deposit Boxes from $4 yearly up.

223 South Spring St. Los Angeles, Cal.

San Luis Obispo County Lands. Best and Cheapest in the State. Rainfall abundant. Colony Lots, Farms, Orchards, Stock Ranches, Town Lots, Business Openings, Mines. Offices opposite R. R. Depots, Oceano and Arroyo Grande, Cal. Call or write for price list.—Beckett Realty Co.

From the San Francisco Examiner:

LARGE CANCER IN HER BREAST

In Woman's Breast Any Lump Is Cancer.

Mrs. S. L. M. Crosley of 907 McAllister street, this city, was given up by surgeons to die over a year ago with large cancers of the breast, side and armpit.

She has just been cured with only two weeks' treatment by the use of that most wonderful island plant remedy used by Dr. and Mrs. Dr. Chamley & Co.

All the papers have been full of reports of their almost miraculous cures, but their success in this case surpasses all others. Honesty is their policy; they treat every case personally, without knife or pain, charge nothing until cured and offer $1,000 if they fail to cure any cancer they treat before it has poisoned deep glands or caused hemorrhage. They have the best 50-cent book ever printed on cancers, sent free to those who describe their cases.

Dr. S. R. Chamley, the author, is the acknowledged authority in America on cancer. This book is full of testimonials from doctors, ministers, bankers and hundreds of others cured in every town all over the Pacific Coast. To get this valuable book address 25 Third street, San Francisco, Cal.

FITS EPILEPSY

CURED TO STAY CURED

Eminent Judges, Ministers, Congressmen and the medical press declare my cures permanent. I cure after others fail. It doesn't matter how severe the case, I can cure it. I want to send you the proof. I will send you my booklet on Epilepsy by return mail FREE. Write to-day.

Dr. W. Towns, Fond du Lac, Wis.

A NEW TRAIN

The Los Angeles Limited

DAILY BETWEEN

Los Angeles & Chicago

66 HOURS VIA

SALT LAKE ROUTE
UNION PACIFIC
CHICAGO & NORTHWESTERN

A Solid Through Train consisting of Standard and Tourist Sleepers, Dining Cars, Library-Buffet and Observation Cars, steam heated and electrically lighted throughout.

ALL TRAINS RUN THROUGH SALT LAKE CITY, THE SCENIC TRIP OF AMERICA

Information and literature gladly furnished at our City Ticket Office, 250 So. Spring St., or First Street Station. Phones Main 352-4095, Home 352-490.

SALT LAKE ROUTE

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. G. P. Agt.
Los Angeles, Cal.

Los Angeles Markets.

Los Angeles, Dec. 28, 1905.

The produce market is quiet along all lines, due to the reaction from the spirited Christmas trading and the heavy damage by frost to many lines of vegetables, which were rushed to market in an endeavor to sell before the damage showed.

Eggs show an easier tendency, and a drop is expected soon. Poultry is well cleaned up and prices unchanged. Butter remains as quoted with fair demand.

Grapes about cleaned up, and the few remaining find ready buyers.

Butter.

B. of T. Creamery, per roll..65@67½
Valley Creamery, fancy....65@67½
Valley Storage 55
Fancy Dairy .....50@52½
Cooking .. ..20@22

Cheese.

Cal. 3-lb hand 19½
Cal. Young America 18½
California Anchor 17½
Northern .. ..16@17
Domestic Swiss 18
Imported do 28

Eggs.

Eggs, Fresh Ranch.....37@38
Eastern and Storage.....32@33
Seconds 21

Poultry.

Fryers, 2½ lbs.....14
Broilers, under 2 lbs.. per lb.....16
Young Roosters, per lb.....14
Hens, per lb.....14
Ducks, per lb 13
Geese 13
Turkeys .....22@23

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock:

Hogs, 200 lbs, per cwt.....5.75
Prime Steers, cwt 3.50
Cows, cwt 2.85
Calves, cwt 4.50
Sheep, ewes, per head.....4.00
Lambs, do 3.25
Wethers, per head 4.50

Potatoes.

Northern, per sack.....$1.50@1.75
Locals, per cwt ....1.10@1.25
Sweets, white, per cwt.....1.00
Sweets, yellow 1.25

Vegetables.

Onions, Silver Skins, cwt.....1.75
Onions, yellow, cwt.....1.75
Garlic .. ..7@8½
Cabbage, per sack.....40@50
Cauliflower, per doz.....25@30
Bell Peppers.....4@5
Wax Beans .. ..6@7
Lima Beans.....3@3½
Cucumbers, per box.....1.00
Green Onions, doz bunches ..20@25
Carrots, doz. bunches.....30
Turnips, doz. bunches .....20@25
Celery, per doz.....32½@40
Peas, per lb .....6½@7
Egg Plant.....3@3½
Chili Peppers, green.....5
Chili Peppers, dry .....15@20
Tomatoes, local 50
Parsley, per doz. bunches.....30
Summer Squash, bx 20 lbs....40@50
Green Corn, per sack .....75@1.25

Citrus Fruits.

Lemons, Standard 1.50
Lemons, Choice .. ..2.00@2.25
Lemons, fancy 3.00
Grapefruit .. ..2.50@2.75
Seedless 3.50
Navels .. ..1.45@2.00

Fresh Fruits.

Apples, Bellefleur .. ..1.25@1.65
Fall Pippins .. ..2.00@2.50
Apples, W. W. Pearmain ..1.25@1.50
Strawberries, per crate ....3.00@3.50
Raspberries .. ..15@20
Guavas, per basket 4
Persimmons .....4@6
Figs, per box 1.25
Black Figs 1.25
Muscats .. ..90@1.75
Tokays .. ..1.35@1.75
Red Emperors, per lb 6
Pears, Winter Nellis, per lb 4
Casaba Melons, large crates 2.25@2.75

Dried Fruit.

Apples, evaporated, ex ch, 9c; ch, 8½.

Apricots, ex ch, 11; fy 8½; ch, 7½.

Peaches, fy, 8½@10½; ch, 7½@8.

Santa Clara Prunes, 30-40, 8c; 40-50, 7c; 50-60, 6c; 60-70, 5½c.

Loose Muscatel Raisins, 2-crown 4½; 3-crown, 5; 4-crown, 6.

Beans, Dried.

Limas .....5.00@5.50
Pinks, fancy.....2.50@2.60
Lady Washington .....3.00@3.10
Small White.....3.50@3.75
Black Eyes .. ..5.50@6.00

Nuts.

Walnuts, No. 1, soft shell 14½
Do, No. 2 .....8@10
Do. No. 1, hard shells.....12
Do. No. 2, hard shells.....10
Almonds, paper shell .....15½@16
Almonds, soft shell.. 14
Peanuts, California 6½

Honey.

Honey, comb frames 14
White, strained, per lb 5½
Amber 11½
Beeswax 27

Hay.

Barley .. ..12@14.50
Alfalfa, local .....13@13.50
Alfalfa, Northern .....11@12.50
Wheat .. ..13.50@14.50
Tame Oat .....11@18.50

Grain.

Selling prices of mill stuffs f. o. b. cars L. A., in quantity, are:

Rolled Barley 1.15
Bran 1.30
Feed Corn Meal 1.55
Shorts 1.45
Wheat, milling per cwt....1.50@1.55
Wheat, shipping, per cwt....1.45@1.50
Cracked Corn 1.50
Oil Cake Meal 2.10
Cocoanut Meal 1.55

The directors of the Southern California Mountain Water Company have authorized an issue of 45,000 shares of stock at par value, which amounts to $450,000, for the purpose of raising funds for the construction work necessary to fulfill its contract to supply the city of San Diego.

San Francisco Markets.

San Francisco, Dec. 27, 1905.

Butter.

Fresh lines of extra butter were scarce, and were held at an advance, while the lower priced grades were plentiful at the old basis rates. The market for extras is now at a point that is likely to invite an influx of Eastern butter, which is available at much lower figures.

Fresh California extras 33
Fresh California, firsts 28
Fresh California, seconds 23½
Eastern extras 25½
Storage, California, extras 25

Cheese.

California, new 14¼
California firsts 13½
California seconds 12½
Eastern, Cheddars 15½
Storage, California 13½
Storage, Eastern 15

Eggs.

Selected Ranch Eggs were again in short supply yesterday and, under a buoyant demand, the market developed a firmer tone. Under a call on Chance the only lot offered was quickly sold at 35c.

Eggs, fresh ranch 35
Firsts 30
Seconds 28
California Storage 28½
Seconds 23½

Poultry.

Since the opening of the week, four carloads of Eastern Poultry have arrived, one of which went direct to a retailer, while the others were placed on the open market and sold well. Local stock was in light receipt.

Old Roosters, per doz.....$5.00@6.00
Young Roosters, per doz ..6.50@7.50
Hens, per doz .....5.00@7.50
Ducks, per doz .....5.00@8.00
Turkeys, per lb .....20@21
Geese, per pair .....2.00@2.50

Live Stock.

Strong markets prevail for Live Stock offerings and operators report a spirited trade passing in all departments at full quotations, though prices remain the same as a week ago.

Hogs, per lb., 80 to 130 lbs., ...5¾c.
Hogs, per lb., 130 to 250 lbs.....6c.
Hogs, per lb., 250 to 350 lbs.....5½c.
Hogs, per lb., rough heavy..3½@4½c.
Prime Steers, lb .....6½@7½
Cows, lb .....5@5½
Calves, lb .....4½@5
Sheep, ewes, per lb .....4@4½
Lambs, per head .....3.00@3.50
Wethers, per lb .....4½@5

Potatoes.

River Burbanks .....50@85
Oregon Burbanks .....85@1.10
Salinas Burbanks .....1.10@1.40
Sweets, Merced .....75@1.40

Vegetables.

Onions, yellow, per sack..1.10@1.35
Bell Peppers .....12½@15
Chili Peppers .....6@7
Cucumbers, per box .....1.50@2.00
Tomatoes, per box .....90@1.25
String Beans .. ..7@10
Wax Beans .. ..8@10
Egg Plant, per crate.....2.50
Summer Squash, per box ....85@1.25
Green Peas, per lb.....5@8c.

Citrus Fruits.

Navels, fancy .....2.00@2.50
Seedlings .. ..75@1.25
Lemons, standard .....1.50@3.00

Limes .. ..4.00@5.00
Grapefruit .. ..1.50@2.75
Tangerines .. ..1.00@1.25

Fresh Fruits.

Yesterday's market for Fruits was barren of any special or important features. Early business was seriously interfered with by the rain, and there was no material improvement in the call when the weather cleared.

Apples, per box, extra .....1.75@2.00
Apples, fancy .....$1.25@1.50
Cranberries, per bbl.....15@16
Grapes, per box or crate....1.00@1.25
Pears, per box, Winter Nellis .. ..2.00@3.00

Beans, Dried.

Limas .. ..4.30@4.50
Pinks .. ..2.00@2.15
Small Whites .....3.15@3.25
Black Eyes .....4.50@4.75
Bayos .. ..3.50@3.75
Red Kidney .. ..$3.25@3.75
Horse Beans .....$1.25@1.85

Hay.

Barley, new .....$8.00@11.00
Alfalfa .. ..7.50@12.50
Wheat .. ..11.00@16.50
Oats .. ..9.00@13.50

Grain.

Wheat .. ..$1.33½@1.36¾
Barley .. ..1.18@1.22
Corn 1.42½
Oats .. ..1.37@1.50
Rye .. ..1.45@1.52
Rolled Barley, per ton.....$26@27.50
Bran, per ton .....19.50@20.00
Feed Corn Meal, per ton..29.50@30.50
Middlings .. ..½.....26@30
Cracked Corn, per ton.....30@31
Oil Cake Meal, per ton.....37.00
Cocoanut Cake, per ton.....22.00

Hops.

Grades .. ..8@11

CITRUS MARKETS

NEW YORK, Dec. 26.—Twenty-five cars sold at auction today. The weather is favorable.

NAVELS.

Tahoe, Xf, Redlands Golden Orange Association $2.85
Golden Flower, Xf, R.G.O. Assn. 2.85
Golden Flower, Xf, R.G.O. Assn 2.80
Golden Gate, Xc, R.G.O. Assn... 2.70
Iroquois, Xc, R.G.O. Assn..... 2.70
Signal, Xf, Stewart, Fruit Co.... 2.90
Signal Xf, Stewart Fruit Co.... 2.85
Hollywreath Fy, C.C.U. Lindsay 2.95
Marguerite, Xc C.C.U. Lindsay.. 2.80
Mariposa, Fy, C.C.U., Lemon C. 2.80
Mistletoe, Ch, C.C.U., Lemon C. 2.65
Sunflower, Xf, C.C.U., Redlands. 2.80
Marguerite, Xc, C.C.U., Lindsay 2.60
Isis, Xf, F. H. Spiech & Co..... 2.45
La France, Ch, J. S. Kuns Fr. Co. 2.60
Geisha, Fy, J. S. Kuns Fr Co.... 2.70
Canna, Fy, West Highland Citrus Association 2.65
Crocus, Xf, West Highland Citrus Association 2.80
Gypsy Queen, Xf, Moulton & G 2.90
Ocean, Fy, Moffat Fr. Co..... 2.90
Rose, Xf, Redlands Or. G. Assn. 2.90
Blue Keystone 2.85
Blue Keystone 2.80
Red Keystone 2.75
Red Keystone... ... . 2.70
Mispah, Xf, Redlands Or. Prod.. 2.80
Aloha, Ch, Redlands Or. Prod.. 2.75
Flower, Fy, F. P. Corson..... 2.80
Rialto Girl, Fy, F. P. Corson.... 2.75

THOMPSON IMPROVED NAVELS.

Blue Keystone 2.90

ARIZONA NAVELS.

Boxes averaged $3.75; halves $2.00.

LEMONS.

Protection, Fy, Ohio Lemon Co. 2.10
Buckeye, Ch, Ohio Lemon Co.. 1.95
Flower, F. P. Corson..... 2.15
Silver Lemon, Xf, A. H. Fr. Co. 3.20
Squirrel, Fy, A. H. Fr. Co..... 2.40

* * *

PHILADELPHIA, Dec. 26.—Three cars sold at today's auction. The market is firm on good stock. The weather is fine and pleasant.

NAVELS.

Planet, Xc, Sunset Fr. Ex.....$2.45
Rose, Xf, Red. Or. Gro. Assn.. 2.85
Golden Flower, Xf, Redlands Golden Orange Association.. 3.00

LEMONS.

Bison, St, C.C.U., Pacoima.... 1.60
Lobster, Xc, C.C.U., Pacoima.. 1.80
Quail, Xc, Ont-Cucamonga Ex. 2.40
Coyote, Ch, Ont-Cucamonga Ex. 1.90

The steamer Bonita northbound from Ventura Sunday, December 17, loaded 144 boxes oranges, 132 sacks lima beans, 264 sacks walnuts.

The University of California has been invited to send a representative to the forthcoming conference of biologists that is about to be held in France.

The Alameda Encinal is strongly urging upon the citizens of its town the importance of incorporating into the proposed new city charter the principles of initiative, referendum and recall.

The Highland Messenger reports the formation of a civic league for Highland. A good thing to do. Every town of California of 500 inhabitants ought to have a civic league, or improvement club.

Over irrigation, says the Riverside Enterprise, is much more serious than a failure to supply a sufficient quantity of water. Most of the alkali lands in the state are a direct result of applying too much water.

The Bank of Oxnard doubled its capital on December 1st by adding another $50,000 to it fully paid up stock, which makes it one of the strong financial institutions of Ventura County and a potent factor in the business of Oxnard.

The Pacific Portland Cement Company of Suisan is arranging to more than double the capacity of its present plant, of which the output is 25,000 barrels per day. A second mill of ten kilns is to be built, the construction of which has already been commenced.

Next year will see the advent of the Eel River Power and Irrigation Company with their line to furnish power and light, which will give Ukiah an advantage over any other city in this part of the state. The Times is correspondingly in a joyous frame of mind.

The town of Auyiola, in Tulare County, is to receive a colony of settlers near it soon. A tract of land comprising 1100 acres has been bought and upon it 450 families will settle. The land will be cut up into 40-acre tracts, and out three miles from the Santa Fe track a town will be built. The land will cost the settlers about $19 per acre.

FACTS ABOUT CANCER.

A new booklet published at considerable expense by L. T. Leach, M. D., of 416 Main street, Dallas, Texas, tells the cause of Cancer and instructs in the care of the patient. Tells what to do in case of bleeding, pain, odor, etc., and is a valuable guide in the management of any case. It advises the best method of treatment, and the reasons why. In short, it is a book that you will value for its information. It will be sent by mail, prepaid, on receipt of ten cents, stamps or coin.

Now Is the Time to Look Over Your Old Plows

Consider them worn out. Come in and see our line of Syracuse Goods, consisting of Syracuse

Disc Plows, Solid Comfort Jr. Sulky,
Solid Comfort Gang, Steel and Wood Beam,
Walking Plows, Steel and Wood Beam Chilled Walking Plows
and the old reliable
Fosmir and Stockton Reversible Gang Plows,
the California Disc Plows. Three Gang and larger,
manufactured by us to stand and do the hardest kind of work

Do not fail to see this plow before buying, also Syracuse Steel Lever Harrows, Spring Tooth Harrows, etc. Have you seen the best Wagon on the market? You have not unless you have cast an eagle eye on the Harrison; and remember the location, which is the important part

L. A. MARTIN & SON 137-143 WILMINGTON ST., formerly Old San Pedro St., LOS ANGELES

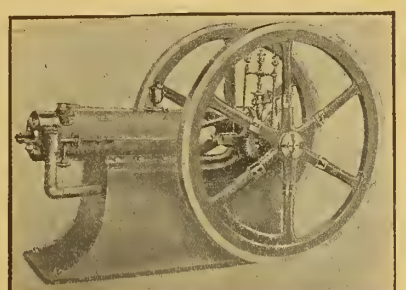
ROOFING
SHEATHING
BOX LINING
TRAY PAPER
for Drying Fruit
and
FLUME LINING

PAPER

MANUFACTURED BY

PIONEER ROLL PAPER CO., 219-221 So. Los Angeles St., Los Angeles, Cal.

TRIED FOR MANY YEARS



And now stands without an equal. That is the verdict of many who have used the

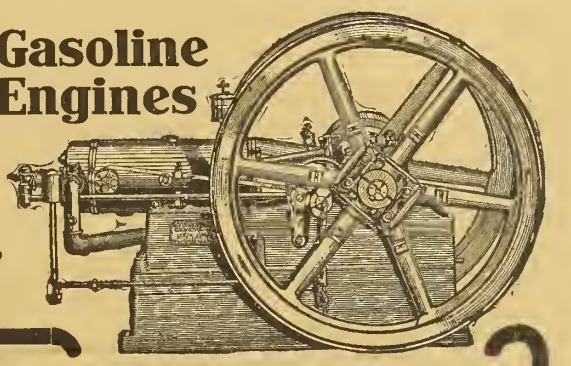
WHITE & MIDDLETON ENGINE

Complete Irrigation Plants Installed. Estimates gladly given,

Wm. Gregory
602 North Main St. Los Angeles, Cal.

I. H. C. Gasoline Engines

Best For Irrigation.



WHEN it comes to pumping water for irrigation purposes the "I. H. C." Gasoline Engines will be found the **simplest, safest** and the most **durable and economical.** They can be attached to any kind of pump, in any position, for raising water from deep or shallow wells, reservoirs, canals or running streams. They excel in **full, regular and long sustained power.** They can also be used for a general purpose engine for sawing wood, churning, cream separating, feed grinding, etc. They give the maximum of power at the minimum cost. No expert knowledge or trained engineer necessary to operate them. They are unequaled for power of all kinds. Made in a variety of sizes and in two styles. **Horizontal or Portable 6, 8, 10, 12, 15 Horse Power. Vertical, 2, 3, 5 Horse Power.**

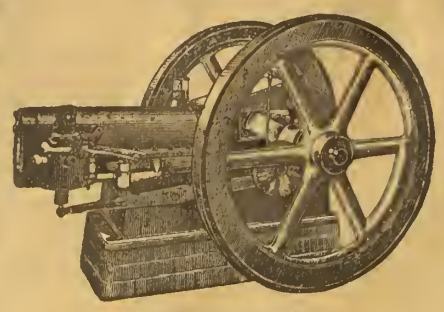
Call on local agent and examine these engines or write nearest general agency for illustrated catalog showing how they will save you money.

WESTERN GENERAL AGENCIES: Denver, Col., Helena, Mont., Portland, Ore., Spokane, Wash., Salt Lake City, Utah, San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, ILL.
(INCORPORATED.)

Factory Direct to User

IRRIGATION, POWER
AND
ELECTRIC PLANTS



THE WESTERN

BEST, STRONGEST, SIMPLEST, MOST SUCCESSFUL

ANY SIZE PLANT FROM 5 TO 500 H. P. CALL AT FACTORY AND SELECT YOUR ENGINE AFTER YOU SEE IT RUN AND TESTED

At Anaheim we are raising 400 inches 40 feet on 5½ gallons per hour. Can't be equalled by any other engine.

Western Gas Engine Co.
908 to 932 No. Main St., Los Angeles, Cal.
SEND FOR NEW CATALOGUE

RUBEROID ROOFING

The peer of all with 14 years' record for durability and efficiency.
Cheapest because best.

BLAKE, MOFFITT & TOWNE
Both Phones 679 242 to 248 So. Los Angeles St., Los Angeles, Cal.

MALTHOID ROOFING

PUT UP IN ROLLS 36 IN. WIDE, WITH FIXTURES
Acid, Alkali and Water Proof; all ready to lay.
Will not deteriorate with age.

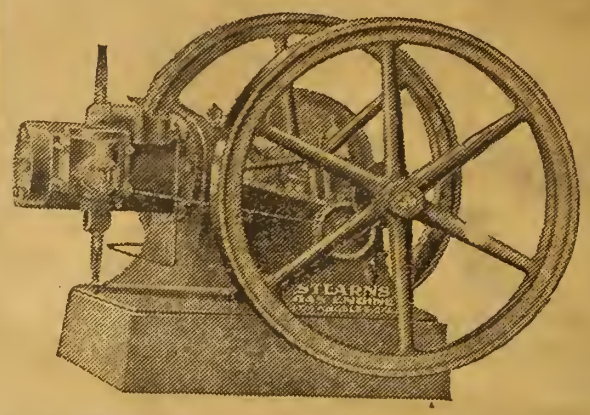
Makers of P. & B. Ready Roofing, P. & B. Building Papers and P. & B. Paints.

THE PARAFFINE PAINT CO.
313 N. LOS ANGELES ST., LOS ANGELES, CAL.
Write for samples, prices and booklet

NO, THIS IS NOT AN ARTESIAN WELL, BUT

AN IRRIGATION PUMPING SYSTEM
SUPPLIED BY
S. J. SMITH MACHINERY CO.
PUMPS, PUMPING MACHINERY, WATER SUPPLY GOODS 212-214 S. Los Angeles St., Los Angeles, Cal.

STEARNS GASOLINE OR DISTILLATE ENGINE



Has many points superior to any other engine.

Hundreds in Use
Every One Satisfactory

Built for California cheap fuel.

For further information, write

STEARNS GAS ENGINE WORKS 1001-3-5 NORTH MAIN STREET LOS ANGELES, CALIFORNIA

NATIONAL WOOD PIPE CO.

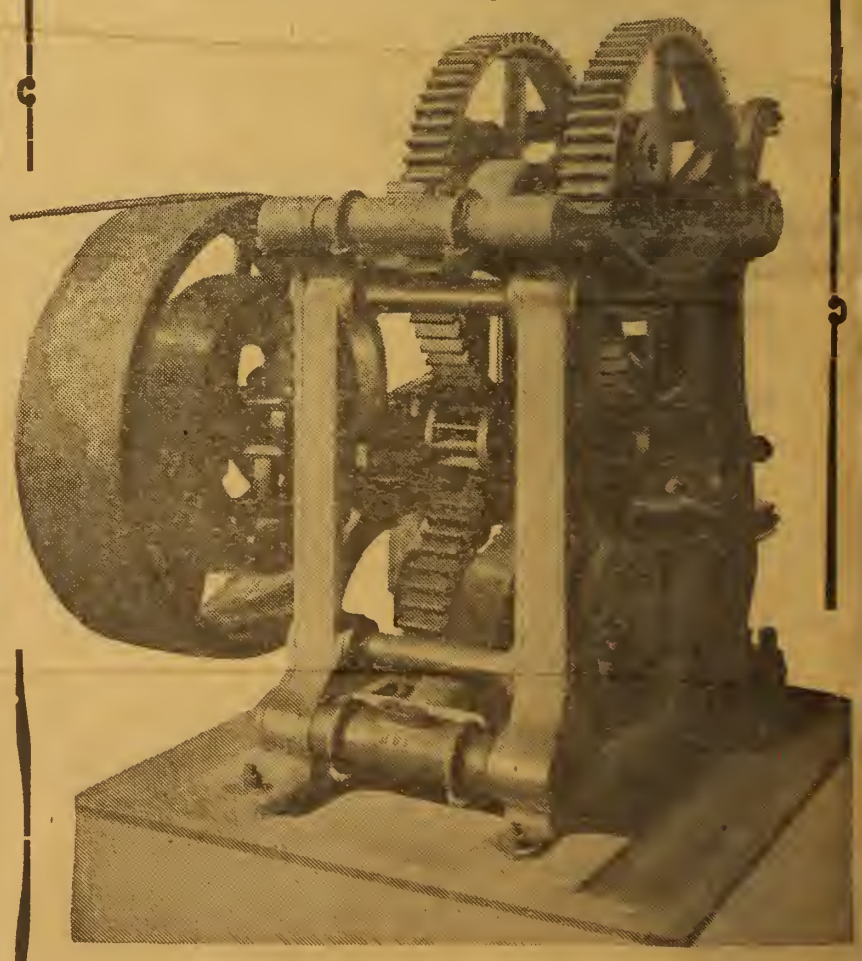
MADE FROM CALIFORNIA REDWOOD OR SELECTED PUGET SOUND YELLOW FIR **WOOD PIPE** WOODWARD PATENT MACHINE BANDED PIPE WHEELER PATENT CONTINUOUS STAVE PIPE BORED WOOD WATER PIPE

Puget Sound Office, Olympia, Washington
Los Angeles Office, cor. Sixth and Mateo Sts. San Francisco Office, 301 Market St.
A booklet, "The Whole Story About Wood Pipe," mailed free upon request

The Record for the New Pomona Pumps

FOR 1905

Not a Broken Rod, Not a Plunger Pulled for Repairs



The irrigation season just closing has demonstrated fully the high merit and efficiency of the New Pomona Pumps.

Every one installed has passed through the season's run without breaking a rod or requiring the valves to be pulled for repairs, proving conclusively that the ideal beam motion used by these pumps is more than has been claimed for it.

The slow, uniform motion upward and the quick, smooth down motion handles the rods without any jerk or jar, while the long lap of the plungers in passing the dead points, keeps the water column in continuous motion upward and a steady stream flowing from the discharge pipe.

They have passed through the experimental period and are built better than ever for next year.

The ideal pump for irrigation purposes. Send for catalog.

Pomona Manufacturing Co., Builders, Pomona, Cal.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 042653821